EXHIBIT J

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 1            IN THE UNITED STATES DISTRICT COURT

 2          FOR THE NORTHERN DISTRICT OF GEORGIA

 3                   ATLANTA DIVISION

 4

   DONNA CURLING, ET AL.,              )

 5                                     )

        Plaintiffs,                    )

 6                                     )  CIVIL ACTION FILE

   vs.                                 )  NO. 1:17-CV-2989-AT

 7                                     )

   BRAD RAFFENSPERGER, ET AL.,         )

 8                                     )

 9        Defendants.                  )

10   _____)

11

12              VIDEOTAPED DEPOSITION OF

13                  MICHAEL BARNES

14                  June 27, 2019

15                   10:09 a.m.

16

17       Ross Alloy Belinfante Littlefield, LLC

18             500 14th Street N.W.

19                Atlanta, Georgia

20

21    Reported By:

22    Robin K. Ferrill,

23    CCR-B-1936, RPR

24    Job No. 3431556

25    Pages 1 - 288
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           Joseph Blake Evans, Fulton County
22           Registration & Elections
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25           Registration & Elections
```

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 2                   VIDEOTAPED DEPOSITION OF

 3                        MICHAEL BARNES

 4                        June 27, 2019

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1   VIDEOTAPED DEPOSITION OF

2   MICHAEL BARNES

3   June 27, 2019

4   THE VIDEOGRAPHER: Today's date is

5   June 27th, 2019 and the time is 10:09 a.m.

6   This will be the videotaped deposition of

7   Michael Barnes.   Would counsel please identify

8   themselves for the record after which the court

9   reporter will swear in the witness.

10   MR. BROWN: Bruce Brown representing the

11   Coalition plaintiffs.

12   MR. BRODY: David Brody representing the

13   Coalition plaintiffs.

14   MS. BENTROTT: Jane Bentrott representing

15   the Curling plaintiffs.

16   MR. TYSON: Bryan Tyson, Taylor English,

17   representing the State defendants.

18   MR. JACOUTOT: Bryan Jacoutot, Taylor

19   English, representing the State defendants.

20   MS. BURWELL: Kaye Burwell, Fulton County.

21   MICHAEL BARNES,

22   called as a witness, having been duly sworn

23   by a Notary Public, was examined and testified as

24   follows:

25   ///

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```
 1    EXAMINATION

 2    BY MR. BROWN:

 3         Q.    Please state your full name for the record.

 4         A.    Michael Leon Barnes.

 5         Q.    Mr. Barnes, my name is Bruce Brown.   We

 6    have met.

 7               What is your current position?

 8         A.    I am currently employed with the Secretary

 9    of State's office where I serve as the Director for

10    the Center for Election Systems.

11         Q.    How long have you been the Director of the

12    Center of Election -- for Election Systems?

13         A.    At the Secretary of State's office, I

14    started back with the Secretary of State's office on

15    January 1 of 2018.

16         Q.    And what did you do before January 1, 2018?

17         A.    Prior to moving back to the Secretary of

18    State's office, I was the Director for the Center for

19    Election Systems at Kennesaw State University where I

20    was employed by Kennesaw State from June 2005 through

21    December 31st, 2017.

22         Q.    And focusing on your tenure at KSU --

23         A.    Uh-huh.

24         Q.    -- could you describe in general your

25    responsibilities?
```

Page 8

1   A.   As director, which I served as director

2   from 2010 through the Center's closing in 2017, I

3   oversaw the daily operations of the Center, managed

4   its ballot building operations, as well as its -- as

5   well as its Express Poll data set building and also

6   its training responsibilities for educating election

7   officials within the State.

8   Q.   I want to ask you some general overview

9   questions about the Center in the 2016 time frame.

10   A.   Okay.

11   Q.   And the computers have been described in

12   different ways, but what I would like to ask you

13   about is what you have referred to as the servers.

14   Are you with me?

15   A.   I believe so, yes.

16   Q.   Okay. And what is a server?

17   A.   A server in normal discussions is a

18   computer that is networked to the outside world.

19   Sort of like a web server. That is one definition of

20   a web -- of a server. But there -- in our

21   nomenclatures in educating election officials on use

22   of their voting equipment, we have referenced a

23   particular computer in use also as a server, but it

24   doesn't fit that same definition.

25   Q.   And what is -- what is -- which one is that

Page 9

1 one?

2   A.   That's referenced as the GEMS server. A

3 better definition really should be GEMS computer, but

4 we started with saying "GEMS server" way back in 2002

5 and we have just maintained that nomenclature.

6   Q.   And does that, the GEMS server or computer,

7 have a certain name at CES?

8   A.   The -- I believe we called that particular

9 box our ballot builder.

10   Q.   I will come back to that.

11   But other than the computer that was the

12 ballot builder, what other servers or computers did

13 you have?

14   A.   We had another computer that was called our

15 Epic server and it was one of that one. And then we

16 had a web server for displaying our Center's website.

17   Q.   And what did the Epic server do? Is it

18 E-p-i-c?

19   A.   E-p-i-c. The Epic server produces the data

20 files that are used to power the Express Poll, poll

21 book.

22   Q.   Other than the ballot builder, the Epic

23 server, and the web server, were there other

24 computers or servers at CES?

25   A.   I do not recall there being more than those

Page 10

1   three servers.

2   Q.   Okay.   And let me focus on the ballot

3   builder.   That's just a computer, right, a PC?

4   A.   Ballot builder was a computer.   A --

5   basically a storage box.   It was sort of a central

6   computer where we stored databases that had been

7   built for election.   So we had additional computers

8   in the office connected to that ballot building box.

9   So that as a file was built on a computer by a ballot

10   builder, a individual, that file would then be saved

11   back to the central location, the ballot builder box.

12   Q.   And was the ballot builder connected to the

13   Internet?

14   A.   It was not.

15   Q.   And then how many computers connected to

16   the ballot builder?

17   A.   There were a number within the office.   I

18   don't know the specific number.

19   Q.   Would the people who were actually building

20   the ballots use those other computers that were

21   connected to the ballot builder?

22   A.   Yes.

23   Q.   And how were they connected to the ballot

24   builder?

25   A.   Hard wire.

Page 11

1   Q.   But maybe a dozen of those?

2   A.   Honestly, I don't recall how many were

3   connected.

4   Q.   What software would the ballot builder use?

5   A.   The ballot builder box really did not have

6   any software on it. It stored the files. So it

7   basically was a folder directory where the files were

8   stored.

9   Q.   The computers that were networked into the

10   ballot builder, as to those, what software did they

11   use?

12   A.   They used the ballot building software that

13   the State of Georgia used called GEMS.

14   Q.   So each of those computers ran GEMS,

15   correct?

16   A.   Each of those computers had the GEMS

17   executable installed on them, yes.

18   Q.   Did the ballot builder have a GEMS

19   executable installed on it?

20   A.   I do not believe it did.

21   Q.   What was the operating system for the

22   network for the computers that fed into the ballot

23   builder storage box?

24   A.   Honestly, do not recall.

25   Q.   Once the -- what did the ballot storage

Page 12

1   computer do with the ballots that were fed into it by

2   the various computers?

3   A.   It was just -- it was just literally

4   storing a backup copy of the election database that

5   was being built. It was holding onto that storage.

6   Q.   We will get this in a little bit greater

7   detail, but I'm going to try to ask you questions

8   about the flow of the various files.

9   A.   Okay.

10   Q.   The ballot themselves eventually made it

11   downstream.

12   A.   Uh-huh.

13   Q.   Right?

14   And how would -- just describe in your own

15   words how the built ballots would get from the

16   individual networked computers to, for example, the

17   counties?

18   A.   Okay. So my understanding of your question

19   is the process of constructing the database and then

20   all the way until the point of delivery to a county?

21   Q.   Sure.

22   A.   A ballot builder, we had within the office

23   at Kennesaw, we had three specific ballot builders.

24   That was their permanent job. And they would first

25   collect information from counties through phone calls

Page 13

1   or through faxes or through, in some circumstances,

2   e-mails received. And take that information from the

3   county and begin constructing a database to

4   facilitate the needs of the county to execute the

5   election at hand.

6   The data would be collected and then the

7   ballot builder would sign into their ballot building

8   computer at their desk, which had no external network

9   connection to the outside world. They would sign

10   into that device and open up the GEMS program and

11   begin building a data set for the election at hand.

12   The data set would be built there on the

13   local box by the ballot builder and they would retain

14   a copy of that on their box until a point in time

15   where they had completed their work. Once they had

16   completed their work, they would then save a copy of

17   the database that they had completed to the ballot

18   building server.

19   Once that record was placed, it would be

20   placed into a folder called "review," where then

21   others in the office would then take that copy that

22   had been saved to the ballot building server and load

23   that copy to their individual ballot box station

24   within the office, and then perform a review of the

25   database to validate that what has been constructed

Page 14

1   by the ballot builder is equal to the information

2   provided by the county or jurisdiction. That we have

3   the right precincts in place, the right combos in

4   place, the right districts, the right polling

5   information, the right races, the candidates in the

6   proper order.

7   Once the review process has been completed,

8   then the person reviewing the database would then go

9   back to the server and move the file from the review

10   folder to the "ready for audio check" folder. When

11   it was placed, when that database was placed in the

12   ready-for-check folder, then another member of the

13   staff would load that data file onto their desktop

14   computer that's connected to the ballot building

15   network, load that database to that computer, open up

16   GEMS, would open up the databases and then would

17   create a memory card from the database for use on a

18   touch screen voting device, a DRE.

19   The memory card would be placed into a DRE

20   device and then the ballot would be reviewed in two

21   ways. It would be reviewed visually on the DRE and

22   would it also be reviewed for audio content to

23   confirm that we had placed all the proper audio files

24   equal to the text that was displayed on the DRE.

25   So we would look at all ballot styles to

Page 15

1   make sure they were complete, make sure that they

2   were appearing as required, making sure that all the

3   candidates were in place, that they were appearing

4   properly, that there were no differences in display

5   for one candidate versus another candidate. We would

6   also validate that the proper audio files were in

7   place for those voters that needed the ADA audio

8   ballot. Make sure that if it's saying candidate one

9   that it's reading candidate one, so that there's no

10 difference between an audio readout and a visual

11 display.

12   Once that review was done and the audio

13 check was completed and everything was shown as

14 proper, then whomever was checking that database at

15 that point again would go back to the file folder on

16 the server and they would move the database from the

17 ready for audio check to the ready to generate proofs

18 location.

19   Once the database was in a ready for

20 generating proofs, then a member of the office would

21 load that database to their local GEMS computer and

22 then open up the GEMS database and then produce

23 ballot proofs where they would produce pdf copies of

24 the optical scan, the optical scan ballots that were

25 residing within the GEMS database. And they would

Page 16

1   also produce a set of reports, all in pdf form, that

2   outline various items within the database. The

3   voting locations, what precincts are connected to

4   those voting locations, what district combos are

5   related to those precincts, and finally what ballots

6   are related to those individual based districts.

7   So those reports, along with the ballots

8   themselves all in pdf form, would be placed into a

9   folder and then that folder would then be, in 2016,

10   would be placed on the Center for Election System's

11   website to a specific county folder, where a county

12   had user rights and privileges to access that data

13   file for download from our website for approving

14   purposes. Along with the reports and the ballots was

15   also a sign-off sheet for the counties to return to

16   the Center for Election Systems upon completion of

17   their review.

18   Once the packet was received by the county,

19   the county then had the -- we normally asked them to

20   turn that back around in 48 hours, because we would

21   normally be in a ballot-building environment in a

22   very tight window, compressed time. But we would

23   give ample time for the counties to review the

24   ballots.

25   If they found any issues in the ballot

Page 17

1   proofs or any issues in the reports that they

2   gathered, then they would notify us in writing of

3   what the issues may be. That writing may be, again,

4   through e-mails, could be through faxes. We didn't

5   just take phone calls. We would listen to them on

6   the phone, but we wanted written information on what

7   was wrong with the ballots so that we could place

8   that into our record for the ballot building.

9   And if there were issues that needed to be

10   addressed in the database, then the database would be

11   updated by the ballot builder and then it would go

12   through the review process again.

13   If the county reviewed the ballot and found

14   it to be accurate, found the reports to be accurate,

15   then they would return a signed sign-off sheet to the

16   Center for Elections. And then the Center would then

17   take the data file, the GEMS database that's still

18   sitting there on the ballot build server and would

19   move it from -- by this point in time it was in a

20   folder called "ready for county review."

21   Once we had a sign-off received from the

22   county, then that would be moved from that folder to

23   the next folder in the sequence which was ready to

24   generate print proofs. Where we would generate print

25   files for the individual printers that the counties

Page 18

1   had contracted with. Those print files would be in

2   pdf form and then those print files would be

3   transmitted to various printers based upon how they

4   wanted those files delivered.

5   After the print files were sent to the

6   printer, then we would take the database file on the

7   ballot server and move it to the next folder, and the

8   next folder was ready to generate a CD. So the data

9   file would be burned from ballot builder onto a

10   physical CD and then that CD packaged and forwarded

11   to the individual county.

12   Q.   And then to carry it on through, the county

13   then would take that CD and load it into their own

14   county GEMS database computer.

15   A.   Correct.

16   Q.   And the county's GEMS database computer

17   would then, probably among other things, generate

18   memory cards that would be used in the DRE machines

19   themselves.

20   A.   Correct.

21   Q.   And then people would vote.

22   A.   Uh-huh.

23   Q.   And then what would happen to the memory

24   cards after people voted?

25   A.   At the end of the polling operation at the

Page 19

1   close of polls, the -- after all of the reports had

2   been printed out from the DREs that are required at

3   the close of polls which showed what each individual

4   device had collected during the operating process, a

5   poll worker is instructed to turn the DRE machines

6   off and extract the memory cards and return the

7   memory cards, along with copies of the tapes produced

8   in the polling location, back to the election office,

9   the county election office.

10   Q.   And then what does the county do with the

11   memory cards and those reports?

12   A.   The memory cards are to be uploaded back

13   into the county GEMS computer for transfer of the

14   election results collected or the election

15   information collected by the DREs and store it to the

16   memory cards and upload into the GEMS computer for

17   vote tabulation.

18   Q.   And which GEMS computer vote tabulation is

19   that?

20   A.   That's all done at the county level.

21   Q.   And so the actual record of the votes is

22   stored on the memory card and then transferred to the

23   county's GEMS computer, correct?

24   A.   The memory card is in the -- is in the

25   touch screen, it collects the information. The

Page 20

1   memory card is then extracted from the touch screen

2   and brought back to the county election office and

3   uploaded into GEMS, yes.

4   Q.   And then how does that record get from GEMS

5   back to where it needs to go?

6   A.   When you say "back to where it needs to

7   go."

8   Q.   Does it get transferred back to the

9   Secretary of State for final tabulation?

10   A.   Well, all tabulation is done at the county

11 level. There is not tabulation done at the state

12 level. There is certification of results at the

13 state level but, there is no tabulation done at the

14 state level. All tabulation is done at the county

15 location.

16   The county, once they have completed doing

17 their tabulation, will go through a process of

18 certifying their returns. Reports printed from their

19 GEMS computer are compared against the tally tapes

20 that are brought back from the polling location to

21 validate vote counts. They also double-check their

22 precinct recap sheets to see how many voters

23 participated, a lot of reconciliation takes place.

24   Once the county completes all of their

25 tasks, which there are a large number of those tasks,

Page 21

1   then the counties will certify their returns and make

2   those returns, bring those physical returns back to

3   the Secretary of State's office. And if there is a

4   state election involved, then the state will certify

5   those returns.

6   Q.   And then how do they transmit their

7   certified returns back to the Secretary of State?

8   A.   That's -- that's a physical record that's

9   placed into a sealed envelope and it is

10 hand-delivered to the Secretary of State.

11   Q.   From every county?

12   A.   Yes.

13   Q.   Let me go back and ask a few questions

14 about this work flow.

15   You were very careful to describe different

16 folders --

17   A.   Uh-huh.

18   Q.   -- that the, the process went through.

19   And can you just review the different

20 folders that were used to sort of track the process,

21 all the way through? It was about four or five of

22 them.

23   A.   There are -- I think, let's see -- I have

24 to sort of go in my memory bank.

25   The first folder was like ready for review.

Page 22

1   The second folder was ready for audio review. The

2   third folder was ready to generate proofs. The

3   fourth folder was proofs generated. And that's where

4   we would hold the copies of the pdf proofs that we

5   had generated for that particular database.

6   The fifth folder was ready for county

7   review. The sixth folder was ready for print. The

8   seventh folder was ready to generate CD. The eighth

9   folder was CD generated. The ninth folder was CD

10   checked. The 10th folder was ready to generate

11   sample ballots. The 11th folder was ready to

12   generate UOCAVA ballots, and the 12th folder was

13   finished.

14   Q.   And within each of those folders, would be

15   subfolders by county?

16   A.   No. They would -- there would be a folder

17   alone and the only thing that resided in that folder

18   except for the sample folder and the UOCAVA folder

19   would have been a copy of the database.

20   So, for example, Kaplan County. That

21   database would have been placed into ready for

22   review. When it was done for ready for review, it

23   would then be moved from the first folder to the

24   second folder. So there was always only one copy of

25   the database in that folder outlined. That way we

Page 23

1   would always make sure we would have the right

2   database.

3   So there was wasn't a need for a subfolding

4   system within the folders because the files

5   themselves are identified by the county to which they

6   are they reside.

7   Q.   But if I looked in the ready for review

8   folder, would I see 159 databases?

9   A.   Potentially at the beginning. But normally

10   what would happen, we would not finish all 159

11   databases on the same day. We would start the build

12   process and as one finished, one would enter review.

13   And then it would start moving down that list of

14   folders through our review process.

15   And then as a ballot builder completed a

16   different database, it would again be entered into

17   that first folder and then moved down the strata.

18   Q.   But if, if done properly, the same database

19   would never reside in more than one folder.

20   A.   Correct.

21   Q.   Okay. Who -- do you recall who in the 2016

22   time frame were the individuals -- you have

23   identified three people who are responsible for the

24   ballot building.

25   A.   Uh-huh.

Page 24

1   Q.   Do you recall who they were?

2   A.   I do.

3   Q.   And who were they?

4   A.   The three ballot builders employed by

5   Center for Election Systems at the time were Denise

6   Dessert, Conner Howard, and Laura Johnson.

7   Q.   Do they work for you now?

8   A.   They do not.

9   Q.   And did they go from KSU to the Secretary

10   of State?

11   A.   They did not.

12   Q.   And you are the only one who did, right?

13   A.   Correct.

14   Q.   Okay. You described the process, the

15   review process by the counties.

16   A.   Uh-huh.

17   Q.   And that ended up in the counties either

18   saying you have got a correction or signing off on

19   it.

20   A.   Uh-huh.

21   Q.   Are you with me?

22   A.   Uh-huh.

23   Q.   Physically, what did they receive to

24   review? Pdfs?

25   A.   Correct.

Page 25

1   Q.   Okay. So the counties in the review

2   process would not receive a database.

3   A.   That is correct.

4   Q.   Okay. And the pdfs would show what again?

5   A.   The pdfs would be watermarked copies of the

6   optical scan ballots. They would be the layout of

7   the optical scan ballot as what a voter would see

8   except they had a Walmart -- Walmart? A watermark on

9   them that said "proof." So -- and it would be all

10   ballot styles for that election. So if the county

11   had five precincts and there was a different ballot

12   for each precinct, there would be five individual

13   ballot proofs.

14   And then in addition to that were reports

15   generated from the GEMS program that outlined what

16   were the polling locations, what were the precincts

17   connected to those polling locations, what were the

18   district combos associated to those precincts, and

19   what ballot styles are associated to those individual

20   district combos.

21   Q.   The pdfs that you described are pdfs of the

22   ballot as it appeared on the -- as it would appear on

23   the, on the DRE machine?

24   A.   It is a copy of the optical scan ballot.

25   Q.   What does that mean?

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1   A.   When GEMS produces a ballot, it produces

2   actually two ballot styles, two ballot images. One

3   is a physical printout image which is used for,

4   instead of Georgia, mail-out absentee balloting and

5   for provisioning ballot. And that is referenced as

6   an optical scan ballot, and it lays the races out in

7   order, top to bottom, left to right.

8   The GEMS computer also takes that same

9   information in relation to races, but also produces a

10 DRE display of the ballot which shows the first race,

11 followed by the second race, followed by the third

12 race. And we would set the DRE in a two-column

13 configuration. So the first race would be the first

14 race, second race would be below it on that column if

15 there was enough space. If not, it would be on the

16 beginning of the second column and then progress in

17 that nature.

18   Q.   Do the counties review the ballot as it

19 would appear on the DRE screen?

20   A.   During our review phase, they did not.

21   Q.   Okay. And then after they sign off on a

22 ballot or a set of ballots really, right.

23   A.   Uh-huh.

24   Q.   And it goes through the additional process,

25 they then get their database on a CD?

Page 27

1   A.   Correct.

2   Q.   And in 2016 time frame, would they ever

3   download a database from the web server?

4   A.   No.   Protocol was that the database would

5   be delivered via CD.

6   Q.   Could they do that if they needed to?

7   A.   If there was an absolute emergency in

8   place, meaning that there was something that was

9   found amiss with the database the day before

10   balloting had to begin and advanced voting and that

11   county was way down in southeast Georgia or southwest

12   Georgia, then we may look at the opportunity of

13   pushing the file out on the web server for them to be

14   able to pull it down quickly.   But that would be

15   something that would be discussed with the Secretary

16   of State's office to get clearance with them first.

17   Q.   Did that ever happen?

18   A.   We did have emergencies pop up.   I don't

19   remember the last year that that situation happened

20   where something happened literally the day before

21   advanced voting began and we had to move a data file

22   from our office to the county office through the web

23   server.   But I do not recall when that was last done.

24   Q.   But the database themselves were on the web

25   server.

Page 28

1   A.   It resided on the web server for the county

2   to pull it off.   Once the county notified us that

3   they had the file, then the file was removed from the

4   web server.

5   Q.   But the -- you described the -- you

6   described all these various folders, ten or 12 of

7   them --

8   A.   Uh-huh.

9   Q.   -- as the, as the database passes through

10   the process.   Are you with me?

11   A.   Uh-huh.

12   Q.   Are all those folders on the ballot builder

13   computer?

14   A.   Yes.

15   Q.   Are they anyplace else?

16   A.   No.

17   Q.   And there are no backups made of that?

18   A.   There was backups made of the ballot

19   building folder periodically as part of the protocol

20   for the Center of Election so that we make sure that

21   if that ballot building computer broke down, we would

22   have still have backup copies of that device.

23   Q.   How did you do a backup of the ballot

24   builder?

25   A.   I just know that a backup was done.   I

Page 29

1   don't know how it was done.

2   Q.   And it was not functional other than to be

3   a backup; is that correct? Well, it wasn't -- no one

4   would use it other than if there was a problem with

5   the ballot builder.

6   A.   Correct. It was a -- it was a backup copy.

7   Q.   Do you recall what the backup copy was

8   called?

9   A.   I do not.

10   Q.   Getting straight the different servers.

11   The ballot builder you have described, how did the

12   ballots get from the ballot builder computer to the

13   web server?

14   A.   Well, again, that would be something that

15   would only be done in emergency circumstances. That

16   was not something that was done readily. And to be

17   honest with you, I don't remember the last time one

18   was moved from one location to the other. And I

19   don't recall how it was moved from one way to the

20   other.

21   Q.   Did the web server have the GEMS database

22   application on it?

23   A.   It did not.

24   Q.   You described a process where the counties

25   would check the pdfs of the ballots for errors.

Page 30

1   A.   Uh-huh.

2   Q.   You need to say yes for the record.

3   A.   Oh, yes. Yes.

4   Q.   Did, did KSU or did CES keep copies of the

5   written notifications of problems with ballots?

6   A.   We did. Every time that we would build a

7   database, we created an individual folder for that

8   database process that included copies of any

9   notifications we got from counties in relation to the

10 races on the ballot, any e-mail communication that

11 may have been had between the county and the ballot

12 builder about building the database. And any records

13 of correction, those sign-off sheets with notations

14 of what needed to be corrected or copies of the pdf

15 ballots with markups were put into that folder and

16 retained.

17   Q.   And those -- CES still has those folders,

18 correct?

19   A.   I believe when the Secretary of State's

20 office absorbed CES, those folders came forward in

21 that transition.

22   Q.   And where are they, where would they be

23 now?

24   A.   I believe all those folders reside at the

25 Center for Election Systems operations today.

Page 31

1   Q.   Okay.   Who checks the -- for mistakes in

2   the state-wide races; how is that done?

3   A.   Every ballot is looked at as an individual,

4   so we had the three ballot builders that would build

5   their databases. If you didn't build the database,

6   then you were allowed to check any other's work. But

7   there were also two people within the Center for

8   Election Systems that were also educated on ballot

9   building and could review ballots for content to make

10   sure that those were right, I being one of those.

11   Q.   So you described a review process, that

12   would be done by other ballot builders; is that

13   correct?

14   A.   Yes, yes.

15   Q.   Or by you.

16   A.   Correct.

17   Q.   And you are familiar with how GEMS, the

18   GEMS database works.

19   A.   I am, correct.

20   Q.   Now, who had access to the ballot builder

21   computer?

22   A.   Who had access to the computer itself?

23   Q.   Yes.

24   A.   I had access into the room where the ballot

25   builder computer was. The assistant director for the

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```
 1    Center had access to the room where the ballot
 2    building server was.  The executive director for the
 3    Center had access to where the server was located and
 4    the IT -- I'm trying to think of his title.  But our,
 5    sort of our IT operations in-house had access to that
 6    room.
 7         Q.   And in the 2016 time frame, who was the
 8    assistant director?
 9         A.   Stacy Jackson.
10         Q.   Okay.  And who was the executive director?
11         A.   Merrill King.
12         Q.   And did you report to Merrill King?
13         A.   I did.
14         Q.   And who is the IT operations director?
15         A.   Steven Dean.
16         Q.   Okay.  And then what sort of security was
17    on the ballot builder to prevent someone who
18    shouldn't be looking at it, looking at it?
19         A.   Everything was user name and password
20    protected.
21         Q.   If someone gained access, would the
22    computer make a record of who was gaining access to
23    it?
24         A.   That's a question I don't know.
25         Q.   And where were people's credentials to sign
```

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1   on, user name, password, where, where would they

2   store it?

3   A.   I don't know.

4   Q.   Did any nonemployee or contractors have

5   access to the ballot builder?

6   A.   They did not.

7   Q.   You have described the ballot building

8   process at high level in response to my questions in

9   the 2016 time frame.

10   A.   Uh-huh.

11   Q.   At a high level, is that the process that's

12   used today?

13   A.   The same folder structure and how databases

14   move through, yes.

15   Q.   Are the same -- not the same physical

16   hardware, but functionally the same servers used for

17   the process?

18   A.   No.

19   Q.   What computers are used?

20   A.   Today?

21   Q.   Yes.

22   A.   Everything today is hardware put in place

23   by the Secretary of State's office.

24   Q.   Does the hardware have the same function as

25   it did in 2016?

Page 34

1   A.   Say -- does it do the same thing? Does the

2   hardware hold the GEMS executable?

3   Q.   Right. Well, you described -- do you have

4   a ballot builder computer now?

5   A.   Do we have a ballot builder server?

6   Q.   Yes.

7   A.   Yes. I don't know what the Secretary of

8   State's office names it as, but, yes.

9   Q.   But do you use -- do you use it in the same

10   way roughly?

11   A.   In the same way, where the people building

12   ballots have a computer that holds the GEMS

13   executable. They build a data file and then it is

14   saved back to that server.

15   Q.   And is it networked by wire?

16   A.   Hard wire, yes.

17   Q.   And how many ballot builders do you have

18   today?

19   A.   I have three.

20   Q.   And who are they?

21   A.   Today I have Xavier Harris, Chris Balleau,

22   and Sam Sheldon.

23   Q.   And who has -- who has Merrill King's

24   position?

25   A.   There is no executive director anymore.

Page 35

1   Q.   And do you have -- do you have assistants?

2   A.   In --

3   Q.   Do you have assistants to you?

4   A.   I report to the -- the deputy Secretary of

5   State.

6   Q.   And who is that?

7   A.   Jordan -- and I have the hardest time

8   saying her last name -- but it's F-u-c-h-e-s.

9   Q.   And then who reports to you?

10   A.   The three people I mentioned previously are

11   currently -- are my employees and I have one more

12   employee that is -- actually he's a employee of the

13   IT department, so he doesn't actually report to me,

14   but he resides at Center for Election Systems.

15   Q.   And who is that?

16   A.   His name is Terrance Reese.

17   Q.   Okay. And today, are the -- do the

18   counties review pdfs in the same way as they did in

19   2016?

20   A.   Yes.

21   Q.   And today, do the counties -- well, you

22   described a process where CES will send pdfs of

23   ballots, rough drafts of the ballots to the counties

24   for their review. Is that still done in the same way

25   now?

Page 36

1   A.   Yes, yes.

2   Q.   And the counties still today report back in

3   writing as to mistakes --

4   A.   Yes.

5   Q.   -- or problems with the ballots, right?

6   A.   Yes, yes.

7   Q.   And then after sign-off and after you do

8   your final review, will you still send by CD the

9   completed GEMS database for each county?

10   A.   Yes.

11   Q.   And today, is it the same as except in an

12   emergency, a county would not have a GEMS database

13   downloaded directly from a server to the county,

14   correct?

15   A.   It's the Secretary of State's position that

16   everything is physically delivered. There is no

17   electronic transfer of database.

18   Q.   Okay.

19   MR. BROWN: Just one second.

20   Q.   (By Mr. Brown) I'm going to hand you what

21   has been marked, what's going to be marked as

22   Plaintiff's Exhibit 20. And for the record, we are

23   continuing the numbering that was started in the

24   Ledford deposition where Exhibits 1 through 19 were

25   marked.

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1   (Plaintiffs' Exhibit 20, Defendants

2   Secretary of State Brad Raffensperger, State

3   Election Board, and State Election Bord Members'

4   Response to Order Dated April 16, 2019, marked

5   for identification.)

6   Q   (By Mr. Brown) Let me direct your attention

7   to page 7. And for the record, that Exhibit 20 is a

8   copy of Defendant's Secretary of State Brad

9   Raffensperger, State Election Board response to order

10   dated April 16, 2019. I do not have a document

11   number for that filing unfortunately, but let me

12   refer to page 7.

13   If you look at the first bullet point,

14   underneath subparagraph 3, the brief says that the

15   Secretary of State prepares a GEMS database

16   containing the contents and candidates for the

17   scheduled election that is proofed and approved by

18   the county prior to being finalized.

19   The database itself isn't proofed and

20   reviewed, is it?

21   A.   Reports from the database are generated and

22   provided to the county for review.

23   Q.   Okay. But the county again does not review

24   or proof the GEMS database itself.

25   A.   Again, I would just state my previous

1   answers that the county approves the reports

2   generated from the database.

3   Q.   But it does not review the database itself.

4   A.   We do not provide them a physical copy of

5   the database before sign-off.

6   Q.   Okay. And then the drafts pdfs, are

7   those -- okay.

8   And the CDs that finally go to the

9   counties, are those encrypted?

10   A.   Yes.

11   Q.   You described some reports that went with

12   the ballots to the counties for the review process.

13   A.   Uh-huh.

14   Q.   Are you with me?

15   A.   Yes.

16   Q.   Could you describe those again?

17   A.   I believe there are four reports that we

18   provide along with the individual ballots and it's

19   the vote center with cards. Which outlines the

20   voting locations, what precincts are connected to

21   those voting locations, what director combos are

22   connected to those precincts. And finally what

23   ballot styles are connected to those district combo

24   values. So that's one report.

25   Another report is reporting precincts with

Page 39

1   bases. This outlines the number of precincts and the

2   various district combos associated to each individual

3   precinct. And we provide a base precincts with cards

4   report, which outlines the base precincts and the

5   physical ballot styles associated to each base

6   precinct.

7   And then finally, there's a ballot order

8   report that outlines the total number of ballots

9   involved in the election.

10   Q.   In the election for that county.

11   A.   In the election for that county, correct.

12   Q.   That's sort of an index? Or a checklist

13   kind of, kind of report?

14   A.   It's -- the ballot order report?

15   Q.   Right.

16   A.   The ballot order report is more for helping

17   them communicate with their ballot printer.

18   Q.   I see. Are the reports that you described

19   generated by the GEMS database?

20   A.   They are -- you open up the GEMS database.

21   You select the report that you needs to generate and

22   then the pdf is produced.

23   Q.   So the GEMS database serves as sort of the

24   vehicle for producing what the counties are going to

25   receive.

Page 40

1   A.   Yes.

2   Q.   Okay. What is a district combo?

3   A.   A district combo is a value that's set up

4   within the voter registration system.

5   Q.   And -- okay. It's a value that's set up in

6   the voter registration system?

7   A.   Uh-huh.

8   Q.   And is that value assigned to each voter?

9   A.   When a voter registers to vote, they, based

10   upon their residency, are assigned to a particular

11   precinct, and then within that precinct they are

12   assigned a district combo value. The district combo

13   value relates to the political district that that

14   voter resides in.

15   Q.   And is there one ballot for each district

16   combo value?

17   A.   Yes.

18   Q.   Is there only one district combo value for

19   each ballot?

20   A.   No.

21   Q.   Okay. When would you have more?

22   A.   I'm trying to think of a good example.

23   You have a precinct, let's say that the

24   election that we have is a county-wide election. The

25   only election on the ballot is a single race and it

1 | is a county-wide election. The precinct itself,

2 | however, has multiple district combo values. Because

3 | the precinct has multiple county commission

4 | districts.

5 | The value that's given to the voter is

6 | based upon where they live. So they all live in the

7 | county, so they are all going to be eligible for a

8 | county-wide election. But they are only eligible for

9 | an election in their specific county commission

10 | district if that election is ongoing. So the

11 | district combo value could lead to a different ballot

12 | style for each combo if all the races that make up

13 | the district combo value are being ran.

14 | But if some of those races are not being

15 | ran and it's just a single county-wide race on the

16 | ballot, then the combos are still there, but it's

17 | just one ballot style associated to all the various

18 | combos.

19 | Q.   Okay. Thank you.

20 | And the district combo value that -- the

21 | information that informs the district combo value

22 | comes from where?

23 | A.   That is all done at the county level in the

24 | voter registration system.

25 | Q.   Okay. And then how does it get from the

Page 42

1   voter registration system into the GEMS database?

2   A.   The voter registration system can produce a

3   printed report and it's called a county precinct list

4   report. And the county precinct list report is

5   printed out by members of my office. And on that

6   report contains all of the precincts within a given

7   location, given jurisdiction, a county. The voting

8   locations, the district combo values, and the various

9   districts that those combos are connected to. And

10   that's a physical report that our ballot builders

11   then take and key in information manually into a GEMS

12   database.

13   Q.   And they key it in, in the appropriate --

14   on the appropriate table for a particular ballot.

15   A.   They -- correct. They key it into the GEMS

16   database system.

17   Q.   Okay. And let me shift gears a little bit.

18   I'm going to hand to you a large exhibit which will

19   be marked as Exhibit 21. I'm going to give you this

20   one. That is single-sided, but not bound and then --

21   here you go, this is double.

22   (Plaintiffs' Exhibit 21, E-mail with

23   attachment to Milsteen from Marks, 10/11/17,

24   Bates labeled CGG 1 - 190, marked for

25   identification.)

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1   MR. TYSON: I'm sorry.

2   MS. BURWELL: Just one second I think we

3   got two different things.

4   MR. TYSON: Just to be clear, this one has

5   two pages per, one page per?

6   MS. BURWELL: That might be your next

7   exhibit.

8   MR. TYSON: That's the same thing.

9   Q.   (By Mr. Brown) I have marked for

10   identification Exhibit 21. Exhibit 21 is a 190-page

11   document which has been Bates labeled CGG 1 through

12   CGG 190. The first page of CGG is a October 11, 2017

13   letter to Jeff Milsteen. And just for reference,

14   CGG 3 is an e-mail from Jeff Milsteen to Marilyn

15   Marks saying: Attached please find the records

16   responsive to your open records request.

17   The -- you don't have to believe me, but I

18   will represent to you that it is our position that

19   the documents in this exhibit are the documents that

20   were produced by Mr. Milsteen in response to an open

21   records act request. Okay, are you with me?

22   A.   Yes.

23   Q.   If you would first turn to page 186. And

24   do you recall being forwarded from Merrill King the

25   e-mail that appears on page 186 from Logan Lamb?

Page 44

1   A.   I don't recall seeing this specific e-mail,

2   but I know that I did receive a lot of forwards at

3   the time.

4   Q.   Okay. If you turn to page 185, do you see

5   where Mr. King, I believe, forwards Logan Lamb's

6   e-mail to Steven Dean, Jason Figueroa and yourself?

7   A.   Yes, I listed as a cc.

8   Q.   Okay. And then do you see on page 184

9   where you, in turn, forward Mr. King and Mr. Lamb's

10   e-mail to, among others, Steven Gay?

11   A.   I do.

12   Q.   Okay. I'm going to hand to you next the

13   declaration of Logan Lamb, which is document 2581.

14   MR. TYSON: Are we marking that, Bruce?

15   MR. BROWN: I'm not going to mark it as a

16   an exhibit.

17   Q.   (By Mr. Brown) And have you reviewed the

18   declaration of Logan Lamb before?

19   A.   I have not.

20   Q.   Okay. So you haven't reviewed what he says

21   about his access to the KSU server?

22   A.   I have not read this declaration.

23   Q.   Okay. Reviewing document 2581, page 4 of

24   the declaration, it's page 129 of the filing in

25   Federal Court. Are you with me?

Page 45

1   A.   Yes.

2   Q.   Okay.   Here Mr. Lamb says that in paragraph

3   14:   After this discovery, I wrote a quick script

4   simple program to download what public files were

5   available from the CES server here.

6   And he then says

7   https://elections.Kennesaw.edu.   Do you see that?

8   A.   I do.

9   Q.   And what is elections.Kennesaw.edu?

10   A.   That was the Center for Election Systems at

11   Kennesaw State's website.

12   Q.   Was that the web server that you described?

13   A.   The web server hosted that website.

14   Q.   He then says: No passwords or

15   authentication were required to gain access to these

16   sensitive files.   Do you see that?

17   A.   Yes.

18   Q.   Do you have any reason to doubt that

19   statement?

20   A.   My knowledge of the website as it was

21   constructed was that if a county was attempting to

22   access the website to their particular page, that

23   they had to provide user name and password to access.

24   Q.   And so do you think he didn't gain access

25   or do you think he -- how do you think he did it?

Page 46

1   A.   I don't know how he did it.

2   Q.   Okay. Do you have any doubt that he did do

3   it?

4   A.   I have no reason to say someone has -- is

5   not saying accurately what they did.

6   Q.   He then says: After running the script to

7   completion, I had acquired multiple gigabytes of

8   data. This data was comprised of many different

9   files and formats, but among them were, and then he

10   lists a bunch of different files.

11   Are you with me?

12   A.   Yes.

13   Q.   He says he accessed voter registration

14   databases filed with personally identifiable

15   information of over six million voters. Do you see?

16   A.   That I do.

17   Q.   And do you have any reason to doubt that

18   that statement is incorrect?

19   A.   If he is stating that that file was present

20   on that server on August 24th of 2016, then I would

21   have reason to debate that.

22   Q.   And why, what's the basis for doubting

23   that?

24   A.   Just understanding the time line of when we

25   would build this particular data file. If it is a

Page 47

1   polldata.db3 file containing the full voter set for

2   an election, that file is not built for an election

3   until 10 days prior to that given election. So there

4   was no election schedule that I'm aware of within 10

5   days of August 24th, 2016.

6   Q.   Could it have been the file for a prior

7   election?

8   A.   I don't know.

9   Q.   Could have been?

10   A.   I don't know.

11   Q.   Other than the file for the upcoming

12   election having not being built by the time that --

13   in August of 2016, do you have any other reason to

14   disbelieve that he acquired it by download, voter

15   registration databases filled with personally

16   identifiable information of over six million voters?

17   A.   I don't know.

18   Q.   You don't have any other reason for

19   doubting that.

20   A.   No.

21   Q.   And that if he did do that, that data would

22   include driver's license numbers, birthdays, full

23   home addresses, the last four digits of Social

24   Security numbers, correct?

25   A.   Driver's license number, yes; birth date,

Page 48

1 yes; full home address, last four of Social, I do not

2 know.

3   Q.   Okay.   He also says that he acquired the

4 election management system GEMS databases in dot-GBF

5 and dot-MDB extensions. Do you have any reason to

6 doubt that statement?

7   A.   I have reason to doubt an MDB extension.

8   Q.   Okay. What is an MDB extension?

9   A.   Microsoft Access.

10   Q.   Okay. But doesn't the GEMS management

11 system database run on a Microsoft Access

12 application?

13   A.   That is the -- GEMS -- you enter data

14 through GEMS, it then resides in Microsoft Access

15 tables.

16   Q.   Right. So you don't think he got -- he had

17 access to the files with the MDB extension?

18   A.   I do not believe so.

19   Q.   Okay. What about GBF extension?

20   A.   It's possible that there was a training

21 database on that server that a county may have asked

22 for to do their own local training exercises at that

23 time.

24   Q.   So it's possible that he received a full

25 database, full GEMS database, correct?

Page 49

1   A.   A training database.

2   Q.   But it was a full GEMS database.

3   A.   A training database. Yes, it was a GEMS

4   training database.

5   Q.   But it was a GEMS database that had been

6   constructed for training people how to use GEMS,

7   correct?

8   A.   Correct. Mainly constructed to train

9   people how to train poll workers.

10   Q.   But it was a fully functional GEMS

11   database, correct?

12   A.   It didn't have everything that would be in

13   a normal election GEMS database. Like in relation to

14   number of races, how it -- you know, how its

15   precincts may or may not have been constructed would

16   not have been same to that, but it would have been a

17   usable database for training purpose.

18   Q.   But it would be -- would it look like a

19   database before information was put into it?

20   A.   Yes.

21   Q.   So the architecture of the database would

22   be there, if not the data that informed the database

23   as to the particular ballots being built?

24   A.   Yes.

25   Q.   He then says: I was able to access and

Page 50

1   download GEMS databases for at least 15 counties. Do

2   you see that?

3   A.   I do.

4   Q.   And do you have reason to believe that that

5   statement is not true?

6   A.   I have no recollection of there being 15

7   GEMS databases for any purpose posted to that web

8   server for distribution to a county.

9   Q.   They should -- they should not have been

10   there, correct?

11   A.   They should not have been there.

12   Q.   And you do not recall them being there.

13   A.   I do not.

14   Q.   Did -- okay. I'll come back to that

15   question.

16   He then says: These GEMS databases use

17   poor encryption allowing third parties to extract

18   user names and passwords from multiple databases. Do

19   you see that?

20   A.   I do.

21   Q.   Do you have any reason to doubt that?

22   A.   I honestly do not know the level of

23   encryption within the databases, so I don't know

24   whether it would be considered poor or not poor.

25   Q.   He then does, in fact, identify a training

Page 51

1 video; do you see that?

2   A.   I do.

3   Q.   And it included a video?

4   A.   Yes.

5   Q.   Okay. And then do you see that he also

6 found pdfs of election day supervisor passwords? Do

7 you see that?

8   A.   I do.

9   Q.   And is that information that he would have

10 had access to?

11   A.   We did post onto -- inside the county

12 folder password memos for Express Poll use.

13   Q.   And that would have been accessible to --

14 to -- some of that -- Logan Lamb, in this instance?

15   A.   They were inside the folder at the county

16 level.

17   Q.   Inside the folder at the county level and

18 that folder was where?

19   A.   That was on the web server.

20   Q.   Okay. And then what are the Windows

21 executable and DLLs that he describes? Do you know

22 what those are?

23   A.   Yes.

24   Q.   What's the system data SQL Lite?

25   A.   That is a DLL file that is placed on a

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1   compact flash card for Express Poll that works in

2   combination with the EXP report.exe file that's also

3   listed.

4   Q.   So those work together.

5   A.   Those work together.

6   Q.   He then says in paragraph 15 -- and again

7   I'm still at document 258-1, page 131 of the Federal

8   Court filing in page 6 of this declaration. In

9   paragraph 15, Mr. Lamb says that the Express Poll

10   units are specialized Windows PCs; is that correct?

11   A.   Yes.

12   Q.   Okay. And those Express Poll units are

13   specialized PCs that reside in the counties; is that

14   right?

15   A.   Correct.

16   Q.   Actually, it would be one in each poll

17   location, correct?

18   A.   At least, yes.

19   Q.   Okay. He then says: An attacker can

20   modify these files and affect the behavior of the

21   Express Poll units. If an attacker could modify

22   those files, they would affect the behavior of

23   Express Poll units, correct?

24   A.   That's what it states.

25   Q.   But do you have any reason to disagree with

Page 53

1   that?

2   A.   My question would be what files is he

3   referring.

4   Q.   Okay. What -- what files with respect to

5   which if you did modify them would affect the

6   behavior of the Express Poll units at the polling

7   place?

8   A.   The, the file that you would want to modify

9   in order to change how an Express Poll operates?

10   Q.   Yes.

11   A.   The only file that I have ever seen is a

12   resource file.

13   Q.   What's a resource file?

14   A.   It controls the buttons that an Express

15   Poll displays.

16   Q.   Okay. When -- getting back to Exhibit 21

17   and the e-mails from Merrill King to you and then you

18   to Mr. Gay and others on August 28, 2016, did you or

19   your office make any attempt to determine what files

20   Mr. Lamb had downloaded?

21   A.   I have a hard time recalling what all steps

22   we took at the process of this. I believe our first

23   step was to look and see if data was there, why it

24   was there that shouldn't be there. And then remove

25   said data to make sure it was no longer present.

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1   And my recollection was that Executive

2   Director King then relayed to Mr. Dean to begin, you

3   know, working with KSU IT to harden the web server to

4   remove -- to strengthen its ability to hold those

5   data files in a secure manner.

6   Q.   Did, did you determine what data was there?

7   Did you or your office determine what data was there?

8   A.   My recollection is we didn't start looking

9   to see what was there. We just got rid of whatever

10 was there. That we removed it. It cleared the

11 folders.

12   Q.   Did you keep a record of what was there?

13   A.   I do not recall.

14   Q.   You are not aware of any record of what --

15   A.   I don't recall.

16   Q.   Okay. Did you attempt to do any sort of

17 forensic work to see if you could check the files

18 that Mr. Lamb had downloaded?

19   A.   I do not know.

20   Q.   You said you just got rid of all the data.

21 Could you describe that?

22   A.   My recollection is that the folders were

23 cleared of the data. The data still existed. The

24 data is still maintained within the Center, but the

25 folders were cleared of data so that they were no

Page 55

1   longer available for any download.

2   Q.   Okay. And so the web server was still

3   there. It was not made less accessible. It's just

4   the information on it was changed.

5   A.   My recollection was that the data was

6   moved -- was removed. I don't know what Steven and

7   Merrill were doing with IT to begin strengthening of

8   the system. I just know they began working on

9   strengthening the system.

10   Q.   Okay. So there's no -- as far as you know,

11   other than the declaration of Mr. Lamb, there's no

12   written record of what Mr. Lamb would have

13   downloaded; is that correct?

14   A.   Yes, I do not know.

15   Q.   Do you recall whether your office,

16   Mr. King, Mr. Dean, reviewed what was there that

17   would have been removed --

18   A.   I don't know.

19   Q.   -- to determine whether there was any

20   executable code on there?

21   A.   I do not know.

22   Q.   Do you know if any effort was made by your

23   office, Mr. King, Mr. Dean, to determine how long

24   those files had been on the system?

25   A.   I do not know.

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1   Q.   Do you know if any effort was made to

2   determine how long prior to August 28 someone would

3   have had the same access to those files as Mr. Lamb

4   did in August of 2016?

5   A.   I do not know.

6   Q.   Let me go back to Exhibit 21, which is the

7   big collection of documents. Let me direct your

8   attention to page 181. 181 is a e-mail from you --

9   I'm sorry. 181, the e-mail starts on page 180 and

10   it's from Steven Dean, copies you. Do you see that?

11   A.   I do.

12   Q.   And it's dated August 29th. Do you see

13   that?

14   A.   Uh-huh.

15   Q.   Okay. And do you know what Drupal was?

16   A.   I believe it is a website programming

17   software.

18   Q.   And looking to Mr. Dean's third paragraph,

19   starting "This morning." Do you see where he says:

20   This morning we implemented a patch to disallow file

21   tree access by anonymous users. Do you see that?

22   A.   I do.

23   Q.   Was it your understanding that prior to the

24   implementation of that patch, file tree access was

25   available by anonymous users?

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1   A.   I would infer from his e-mail that it was.

2   Q.   Okay. Do you see where he says in the next

3   paragraph: While we have denied access to the file

4   tree, we are -- we are currently -- we are having

5   trouble patching the ability for anonymous users to

6   access individual files directly without also

7   disallowing Drupal user access to those files. Do

8   you see that?

9   A.   I do.

10   Q.   So the problem there that they were having

11   is that making sure the right people could have

12   access and not the wrong people; fair to say?

13   A.   Honestly, that's speaking language and such

14   that I do not know.

15   Q.   Okay. Let me direct your attention to

16   Document 174. Let me direct your attention to an

17   e-mail from Mr. Moore. And who is Mr. Moore?

18   A.   I believe Mr. Moore worked in KSU IT at the

19   time.

20   Q.   Okay. His e-mail there says: The

21   authenticated scan completed last night and I will

22   share the results as soon as my current meeting

23   completes.

24   Do you know what authenticated scan is?

25   A.   I do not know what they were doing at that

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1   point in time, what IT office and Steven were

2   attempting to complete at that time.

3   Q.   Let me just back up a little bit.

4   If you could -- I should have asked this

5   before, but after you received the forwarding of

6   your -- of the e-mail from Logan Lamb, describe for

7   me what you, Mr. Barnes did and what actions other

8   people in CES did with respect to what Mr. Lamb, the

9   information that Mr. Lamb conveyed to them. Could

10   you do that?

11   A.   I was sitting in on the discussions

12   basically hearing what was going on. But the

13   operational work was being executed by Mr. King and

14   Mr. Dean, and Mr. Figueroa. I was being, you know,

15   updated on the work that they were doing, what they

16   were doing, the actions they were taking. I was

17   aware that they were working, but what those actions

18   were to harden the system, I couldn't speak to. But

19   I did relay information to KSU IT, based on my

20   position as the director, of my guys should be

21   contacting you to speak with these guys and I would

22   like to be on the ccs of this information.

23   One action that I did take in relation to

24   Mr. Lamb's initial one is I did reach out to KSU IT

25   director -- and I'm trying -- I'm drawing his name, a

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1   blank, Steven. I can't think of his last name.

2   Q.   Gay?

3   A.   Yes, Steven Gay. And basically said, you

4   know, can you validate this individual because we

5   don't know if this is a bad actor or not. And

6   possibly could be a bad actor that we may need to

7   look into.

8   Mr. Gay came back and says, no, it appears

9   that Mr. Lamb is a -- is a credible security

10   individual. And then I think I responded back to

11   him, I said, understood. I think we have reached

12   back out to him to see, A, thank him for letting us

13   know about this issue so that we can begin tightening

14   our protocols to make sure that the system is not

15   penetrated in any ill fashion.

16   And then from that point forward, I sort of

17   left it in the hands of Mr. King and Mr. Dean to work

18   with KSU IT to get our web server more enforced.

19   Q.   Is it fair to say that your role was in

20   operations in the sense of leading the effort to

21   build the ballots and do the election work, but

22   others were responsible for system security issues?

23   A.   That would be correct.

24   Q.   Okay. And, ultimately, Mr. King would have

25   been responsible for both your work and system

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1   security for CES, correct?

2   A.   That is correct.

3   Q.   And that on the systems security side, it

4   would be a combination of people who worked at CES

5   and at KSU.

6   A.   That would be correct.

7   Q.   Okay. I had started this line of

8   questioning asking about an authenticated scan.

9   A.   Uh-huh.

10   Q.   Do you know if the authenticated scan was

11   retained?

12   A.   I do not know.

13   Q.   Do you know where something like that would

14   be retained, if it had been?

15   A.   I do not know.

16   Q.   Okay. Let me direct your attention to an

17   e-mail that starts on page 171 at the bottom of

18   Exhibit 21. And it's from you to Mr. Moore and

19   others dated August 31, 2016.

20   A.   Uh-huh.

21   Q.   And then the text of the e-mail starts on

22   the top of 172.

23   A.   Uh-huh.

24   Q.   If you look at the e-mail, sort of back up

25   a little bit.

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1   A.   Uh-huh.

2   Q.   My sense of this is that, as the head of

3   the operational piece of CES, you were concerned

4   about the work that the technical people were doing

5   interfering with getting election out. Is that fair

6   to say?

7   A.   At this time frame in August of --

8   August 31st of 2016, my head was primarily on the

9   production of 159 GEMS databases for the upcoming

10   Presidential election. Which balloting would have

11   been beginning -- absentee balloting would have been

12   beginning within 15 days of that date. So my prime

13   focus at that point in time was making sure we could

14   have a Presidential election in the State of Georgia.

15   Q.   And we're so glad you did, I must say.

16   Now, how did the work that Moore and

17   Mr. Gay were doing the scans, how did that threaten

18   -- "threaten" may be too big a word, but how -- what

19   effect might they have had upon your actual

20   operations?

21   A.   Based upon what I was being told through

22   meetings at the time, it was limiting the ability to

23   use the web server to push out those ballot proofs

24   for proofing purposes. We couldn't post anything to

25   that location for counties to pull down because they

1   were working to make the web server stronger.

2   So we were having to revert back to other

3   ways of getting ballot proofs to counties, physical

4   delivery as opposed to electronic delivery.

5   Q.   Okay. The ballot proofs then were the

6   pdfs, correct?

7   A.   Uh-huh.

8   Q.   And tell me again how they were supposed to

9   be transmitted to the counties.

10   A.   The counties would have been logging into

11   the web and pulling those pdfs down.

12   Q.   And they're given some passcode or

13   something to --

14   A.   Yes, counties have user name and password

15   privileges, yes.

16   Q.   And are you familiar with the protocol that

17   the counties used to secure their passwords?

18   A.   I am not.

19   Q.   What did they have access to other than

20   their file with the PDF of the proofs of the ballots?

21   A.   Once they signed on as a county user?

22   Q.   Right.

23   A.   We mentioned earlier about training videos.

24   Stuff of that nature.

25   Q.   Anything else?

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1   A.   My recollection, I have very little

2   recollection of what all was on the website of 2016

3   now.

4   Q.   What do they have access to now?

5   A.   There is no website --

6   Q.   Okay.

7   A.   -- for logging into and pulling stuff down

8   now. The Secretary of State has set up a secured FTP

9   process that's maintained by SOS IT.

10   Q.   What is SOS? It means secretary --

11   A.   Secretary of State Information Technology.

12   Q.   I'm sorry.

13   And how does secured FTP transmission work?

14   A.   You would have to ask SOS IT that question.

15   Q.   They tell you it's secure.

16   A.   And I trust them.

17   Q.   And through a secured FTP, is it your

18   understanding they get only what's sent to them?

19   A.   That is my understanding, yes, is that the

20   county only has access to that county folder and no

21   other locations.

22   Q.   And when did that, the change, when was the

23   change made from allowing the counties to log in with

24   the user name and password to get their proof file

25   and training video, on the one hand, and then

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1   limiting it to just the proofed file transmitted

2   through an FTP?

3   A.   Everything began being transmitted through

4   the Secretary of State's controlled environment in

5   spring of 2017.

6   Q.   And that was -- that would have been before

7   the migration from CES, from KSU to --

8   A.   Yes, yes.

9   Q.   Before that change in terms of how the --

10 what the counties had access to, did the counties

11 have access to, for training purpose, a GEMS

12 database?

13   A.   At some time we had placed a training GEMS

14 database to a county. To what county, I do not

15 recall. But a training database had been posted for

16 a county.

17   Q.   But just let's say it's July, July 2016.

18   A.   Uh-huh.

19   Q.   And I'm a county -- I'm Richard Barron,

20 just to pick a name -- and I've got a user name and a

21 password and I log into the web server, what could I

22 download?

23   A.   My recollection of what a county could

24 access from the web server once they logged into

25 their -- with their credentials was what had been

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1   posted for them.   But they also had access to another

2   page that showed the training videos, but they only

3   had direct access to what had been posted to their

4   folder.

5   Q.   Did the training video include a GEMS

6   database itself?

7   A.   The training video?

8   Q.   Right.   Or that folder or that module.

9   A.   I don't recall.   I don't recall.

10   Q.   Okay.

11   Let me direct your attention to 169 and

12   that is of Exhibit 21.   What was the fully working

13   clone that's referred to in the e-mail dated

14   September 7 that's in the middle of that page?

15   A.   My recollection was that Mr. Dean was

16   building a new web server and working to, working

17   through the process of hardening that as ways of

18   testing those improvements.

19   Q.   And did he build a --

20   A.   I do not know to what point he completed.

21   Q.   But your understanding, it wasn't

22   completed?

23   A.   I do not believe it was finished.

24   Q.   Okay.

25   A.   But I know that they were working on it.

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1   Q.   Okay.

2   Let me direct your attention to 167. Here

3   Mr. Dean writes to Mr. Simms at edu -- at KSU, a copy

4   to yourself and others: Matt, we have the backup

5   server updated to Debbie and Jessie.

6   What is that? Or who is that?

7   A.   I -- I believe it is a -- again, a software

8   program, but I do not know.

9   Q.   Okay. And what's Apache?

10   A.   Again, I believe that has to deal with

11   managing web processes, but I do not know.

12   Q.   And what backup server is he referring to?

13   A.   I don't know. I'm assuming it was that

14   clone previously referenced, but I don't know.

15   Q.   What happened to that clone?

16   A.   I do not know.

17   Q.   Okay. But your assumption is the backup

18   server here is the clone that he was working on?

19   A.   I would assume, yes.

20   Q.   Okay.

21   Let me direct your attention to 164.

22   First, if you look at the bottom of the page, there's

23   a reference to the Unicoi server. What's the Unicoi

24   server?

25   A.   My recollection of Unicoi, Unicoi was a

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1   server that had been originally distributed to

2   Mr. King in his role as chair of the computer science

3   department, and it was a server that he used as part

4   of his professororial duties with Kennesaw State.

5   And when he relocated to the Center for Election

6   Systems, that particular device came with him.

7   Q.   And what was put on the Unicoi server

8   relating to election?

9   A.   I believe the -- that Unicoi box was the

10   box that Steven was using to build that clone, to put

11   that clone onto, was Unicoi.

12   Q.   So the Unicoi, whatever else it had on it,

13   was the computer that he used to build, or start

14   building the clone.

15   A.   That is my recollection, yes.

16   Q.   And was the Unicoi server connected to the

17   Internet in any way?

18   A.   I believe it was connected to the KSU

19   network, but I do not know if it was connected to the

20   outside world.

21   Q.   Do you see where Mr. Moore says: The

22   serverelection.Kennesaw.edu shows, however, that a

23   outdated version of PHP may be running and may be the

24   reason 40-plus critical vulnerabilities are being

25   identified as relating to PHP?

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```
 1                Do you see that?  165 --

 2      A.   Oh, sorry.  I do see that.

 3      Q.   And what's PHP?

 4      A.   I do not know.

 5      Q.   And do you know anything about this issue?

 6      A.   I -- only that I saw it in these e-mails

 7  through cc.

 8      Q.   And do you know what was done about the

 9  critical vulnerability?

10      A.   I do not know.

11      Q.   Okay.  Let me direct your attention to 162.

12  162 is an e-mail dated March 1, 2017 from Andy Green

13  to Steven Gay.  Do you see that?

14      A.   I do.

15      Q.   Did you receive a copy of that e-mail?

16      A.   I believe it was forwarded to me in

17  subsequent other e-mails.

18      Q.   Okay.  Do you see where -- and Mr. Green

19  worked for Kennesaw, right?

20      A.   That is my recollection.

21      Q.   And do you see where in this e-mail he

22  states that he was able to verify the presence of the

23  vulnerability himself?

24      A.   I do.

25      Q.   And did you, after getting this, undertake
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1   to determine why after Mr. Lamb had accessed files in

2   August, that still on March 1 someone was able to

3   access files in the fashion that Mr. Green describes?

4   A.   I believe my first action upon these things

5   in communication with Mr. King the next day was

6   immediately taking the web server completely offline.

7   Q.   Okay. I understand the action that you

8   took, which was to take -- you took the

9   elections.kennesaw.edu server offline?

10   A.   Uh-huh.

11   Q.   Or the server that had that domain. Is

12   that more accurate?

13   A.   The box that had that domain was completely

14   disconnected from any network connections.

15   Q.   And was it ever put back on?

16   A.   I do not believe it was.

17   Q.   Okay. And to get back to my question, I

18   understand the action that you took, but at that

19   time, are you aware of any effort to answer the

20   question, wait a minute, this was a problem we had

21   months ago, why wasn't anything done about it or

22   something to that effect?

23   A.   I don't recall.

24   Q.   Do you recall asking that question?

25   A.   I honestly do not recall asking that

1 question.

2   Q.   What about Mr. King, did he say, "Damn

3 it" --

4   A.   That, I can't speak to what he thought, but

5 I don't know.

6   Q.   What did he say?

7   A.   I don't know what he said at that moment in

8 time that he got the e-mail. I don't know.

9   Q.   Did you -- did you sense any reaction in

10 writing or in any kind of communication from anybody

11 at KSU or CES as to some concern that the

12 vulnerability described by Mr. Green who was employed

13 by Kennesaw apparently had been in place for many

14 months?

15   A.   My recollection of that day was just, you

16 know, we have got to resolve this. We have got to

17 fix, whatever this is, it has got to be fixed. That

18 was the main thought was their thought -- there was

19 no thought in my head about going back and putting

20 pieces all back together again. I don't know what

21 thoughts were had by others in the Center at that

22 time.

23   MR. BROWN: Okay. Why don't we take a

24   five-minute break if we could. Is that all

25   right?

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1   THE VIDEOGRAPHER: The time is 11:49 a.m.

2   We are now off the record.

3   (WHEREUPON, a recess was taken.)

4   THE VIDEOGRAPHER: The time is 11:58 a.m.,

5   and we are back on the record.

6   Q.   (By Mr. Brown) Mr. Barnes, a couple of

7 follow-up questions.

8   Where is Mr. Dean today?

9   A.   Last I know is he is still employed by

10 Kennesaw State University. In what capacity, I do

11 not know.

12   Q.   Was the GEMS database, the training

13 database, was it encrypted in any way?

14   A.   I don't recall.

15   Q.   And what was it called? What would be the

16 file name of the training? Do you know?

17   A.   I don't recall.

18   Q.   I had asked you if there was a record of

19 what was on the server --

20   THE VIDEOGRAPHER: Hold on.

21   (WHEREUPON, there was a discussion off the

22   record.)

23   THE VIDEOGRAPHER: The time is 12 o'clock

24   p.m. We are back on the record.

25   Q.   (By Mr. Brown) I want to take us back to

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1   after Mr. Lamb had notified CES of what he had found.

2   I had asked you some questions. You had testified

3   about the records that were taken off of the, the web

4   server at the time.

5   A.   Uh-huh.

6   Q.   Do you recall?

7   A.   Uh-huh.

8   Q.   I had asked you was there any record made

9   of what was taking -- taken off. Do you recall that?

10   And you said -- I think you said you weren't aware of

11   one.

12   A.   Uh-huh.

13   Q.   Fair enough?

14   A.   Yes.

15   Q.   I just want to make sure. Was there a

16   electronic record of what was taken off, not just a

17   paper record?

18   A.   As in maintained by the device itself?

19   Q.   Right.

20   A.   I mean, I don't know. All I could speak to

21   is what the files that were in the county folders.

22   That's what was taken off, but those files, copies of

23   those files still resided on, because they were being

24   used for Express Poll distribution purposes. All of

25   those files, those output files were still maintained

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1   on the Epic server of, you know, data that had been

2   made available to the county for that use. So the

3   files still existed. They were just no longer in the

4   folder on that web server.

5   Q.   But in terms of getting a snapshot of what

6   Mr. Lamb had access to or what would have been on the

7   web server at the time he had access, you are not

8   aware of a snapshot.

9   A.   I'm not.

10   Q.   In any electronic or paper form.

11   A.   I'm not.

12   Q.   Okay.

13   Okay. Let me direct your attention to page

14   29 of Exhibit 21. And just to get us back in terms

15   of the time frame, a couple of days before Mr. Green

16   had e-mailed of his verification of the

17   vulnerability. Are you with me?

18   A.   Yes.

19   Q.   And here we are on March 3rd, two days

20   later. Is the document that's at -- Bates labeled

21   29, is that written by you?

22   A.   It is.

23   Q.   And what does it describe?

24   A.   It describes files that were present, the

25   type of files that were present on

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1   elections.Kennesaw.edu at that time on March 1st.

2   Q.   Okay. And you are using Appling County as

3   an example because it's first in the alpha,

4   alphanumeric organization, correct?

5   A.   Yes, that's how I organized it.

6   Q.   Okay. And so what you are describing is

7   using Appling County as an illustration of what would

8   have been on the elections.Kennesaw.edu server at the

9   time Mr. Green confirmed the vulnerability, correct?

10   A.   Yes, I used Appling County as like the

11   primer to get to what was, you know, what was the

12   file at the end of the web string.

13   Q.   And so in the Appling County folder, you

14   had a zip file with audio files.

15   A.   Well, I don't know if I had that in the

16   Appling folder, but let's say the first county folder

17   was Appling and in a county folder would be the

18   following information if it was present in that

19   folder.

20   Q.   Okay.

21   A.   So there would have been, there would have

22   been an audio.zip file. So that file would have

23   contained candidate -- how, how we pronounced

24   candidate names within that county that were -- that

25   were particular to that county, local races. Also

Page 75

1   any local questions, local race headers.

2   Q.   And then what is the -- if you go down

3   to -- almost to the bottom you will see the ABS file

4   poll data.DB3.

5   A.   Uh-huh, uh-huh.

6   Q.   Do you see that?

7   A.   Uh-huh.

8   Q.   What is that?

9   A.   That file was for Express Poll use. And it

10 was a data file to be loaded to a compact flash card

11 that would then be placed into an Express Poll that

12 contained no voter information at all. Was just a

13 list of the various district combos and their

14 associated ballot styles that Express Poll could

15 interpret and create a needed voter access card for

16 advance in-person absentee voting.

17   Q.   And you see in the next paragraph the

18 file.resources?

19   A.   Uh-huh.

20   Q.   Do you see that?

21   A.   I do.

22   Q.   And is that the same file that you

23 discussed before about when we were talking about

24 what damage might -- how you could --

25   A.   That's the file I described as -- this is

Page 76

 1   the -- this is the file that controls what buttons

 2   you see on the Express Poll.

 3   Q.   Okay. And then on the next page under

 4   Cherokee County -- why do you switch to Baldwin and

 5   Cherokee County in sort of illustrative list here?

 6   A.   I do not recall why.

 7   Q.   Okay. So these are all files that were on

 8   the election.edu -- I'm sorry, elections.Kennesaw.edu

 9   site that Mr. Green described was vulnerable,

10   correct?

11   A.   These were file types, yes.

12   Q.   File types?

13   A.   Yes.

14   Q.   And they would have included GEMS

15   instructions pdf also?

16   A.   Yes. Looks like that was -- that was in a

17   manual on how to use GEMS.

18   Q.   Okay.

19   Okay. Turn with me to page 129. And does

20   this reflect the action taken to shut down the

21   server?

22   A.   I believe this is in response to the

23   Unicoi.

24   Q.   Okay. And so this is not shutting down

25   the -- well, two servers here we are talking about, I

                                               Page 77

1   guess, that is web facing. One is the Unicoi server

2   that Mr. King had that used to be for his use as a

3   professor, correct?

4   A.   Correct.

5   Q.   And the other one is the

6   elections.Kennesaw.edu server, correct?

7   A.   Correct.

8   Q.   And at some point both -- were both of

9   those disconnected from the Internet?

10   A.   I believe the web, the

11 elections.Kennesaw.edu was immediately disconnected

12 on that March 1st, March 2nd time frame. And that

13 the Unicoi server, from my recollection, was never

14 put into an outward-facing IP, but it was placed on

15 the KSU network. And then when KSU IT saw that box

16 and did a scan, they immediately said make sure it's

17 taken off now.

18   Q.   Do you know what from the scan --

19   A.   I do not know.

20   Q.   Okay. And do you know where that scan

21 would be now?

22   A.   I do not know.

23   Q.   And how many users are on the KSU network?

24   A.   I do not know.

25   Q.   But thousands?

Page 78

1   A.   I do not know.

2   Q.   But, I mean, it's for the whole university.

3   A.   I do not know how KSU organizes its

4   network.

5   Q.   Turn with me to page 91. And let me direct

6   your attention to the e-mail at the bottom of the

7   page from you to Steven Gay, dated March 15th.

8   A.   Uh-huh.

9   Q.   Now, here you -- this is the bottom of page

10   91 of Exhibit 21. You say: We would like to

11   retrieve certain records from elections.Kennesaw.edu

12   that support our daily office activities.

13   Do you see that?

14   A.   I do.

15   Q.   And I take it you didn't have access to it,

16   but you needed access to it; is that correct?

17   A.   Correct.

18   Q.   Okay. And were you given access to this?

19   A.   We were.

20   Q.   Okay. But it was temporarily not

21   retrievable because of security work that was being

22   done?

23   A.   We didn't have possession of the box at

24   all.

25   Q.   Who had possession of it?

Page 79

1   A.   KSU IT.

2   Q.   Okay. And why did KSU IT have it?

3   A.   They, upon the March 2nd -- March 1st,

4   March 2nd activity stepped in and took possession of

5   that server for their own security assessment. And

6   it literally was removed from the facility and taken

7   to a KSU IT secure storage.

8   Q.   Okay. And so you didn't have your server,

9   you didn't have your web server?

10   A.   The web server was taken from our building

11   and put in possession of KSU IT.

12   Q.   So March 15th, you're saying, I have got to

13   do some work here, got to copy some files, basically,

14   correct?

15   A.   I needed access to files that were being

16   stored on that server.

17   Q.   Turn with me to page 62. In that -- in the

18   e-mail in the middle of the page identifies an SOS

19   investigator. Do you know who that investigator was

20   and what they were doing?

21   A.   62?

22   Q.   Yes.

23   A.   Let's see.

24   Q.   Yes, it's in the middle of the page.

25   A.   I do not recall what that particular SOS

Page 80

1   investigator was looking at, at the time. We -- we

2   communicated with SOS investigators a lot in their

3   role with investigating issues brought before the

4   state election board, and they would customarily ask

5   for ballots from previous election.

6   Q.   Did the investigator from the Secretary of

7   State undertake any sort of investigation into the

8   security of the CES system?

9   A.   Not that I'm aware of.

10   Q.   Okay. Do you recall the FBI taking

11 possession of some of your gear?

12   A.   I -- I recall the FBI being contacted.

13 What the FBI did in possession in taking such forth,

14 I don't know what they did and when they particularly

15 did it, but I remember the FBI being brought in.

16   Q.   And what is your understanding of what they

17 took?

18   A.   My understanding is they took a full image

19 of the elections.Kennesaw.edu server.

20   Q.   And they took the image of it?

21   A.   That's my understanding. I don't know if

22 they took physical possession of

23 elections.Kennesaw.edu at some time. I don't know.

24   Q.   And what did they do with the image?

25   A.   They reviewed the image. I don't know what

Page 81

1   they did, but they reviewed the image as part of

2   their investigation.

3   Q.   Okay. And then the server itself, where

4   did it go?

5   A.   The server was property of Kennesaw State

6   University. So it stayed with -- after the FBI

7   was -- concluded their investigation, that server was

8   retained by Kennesaw State University IT. That box

9   never came back to CES.

10   Q.   Okay. And then did you build another?

11   A.   No, we did not. KSU did all web services

12   for the Center after March 2nd, 2017.

13   Q.   Do you know what KSU IT did with that web

14   server?

15   A.   I don't know in what condition that web

16   server currently stands.

17   Q.   Is it still out there?

18   A.   I do not know.

19   Q.   Do you know if anyone took a picture of

20   what the FBI took a picture of?

21   A.   I do not know.

22   Q.   So if you wanted to find out what was on

23   that web server today, it would be beyond your reach;

24   is that correct?

25   A.   It would be beyond my reach, yes.

Page 82

1   Q.   Okay.   It would either be at KSU IT or with

2   the FBI?

3   A.   That is my understanding, yes.

4   Q.   Now, did you -- do you recall in the --

5   later in 2017 receiving any notice from the Attorney

6   General that we have been sued, you need to retain

7   all your records, don't destroy anything or anything

8   to that effect?

9   A.   I know that we got notification from legal

10   counsel at KSU through e-mail to us saying, you know,

11   hold onto anything you have got.

12   Q.   And when did you get that?

13   A.   I don't recall the day that we got that.

14   Q.   But in the 2017 time frame that --

15   A.   Yes.   We -- yes.   I think there were

16   multiple lawsuits filed in 2017.   So, yes.

17   Q.   And -- but was that by e-mail or --

18   A.   I don't recall how we got notification.

19   Q.   And did you hold onto everything you had?

20   A.   All the documents that we had within the

21   Center for Election Systems were held.

22   Q.   What about the data?

23   A.   All the data that we had within CES was

24   held.

25   Q.   Okay.   What about the servers, were they

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 1   kept?
 2        A.    All of the hardware that was in the
 3   building stayed in the building, yes.
 4        Q.    And what was -- at the time you received
 5   notification of the lawsuit, what was within your
 6   control?  Ballot builder?
 7        A.    Ballot builder was in our control.  Epic
 8   server was in our control.  We had no outward-facing
 9   servers of any sort in our control or in our
10   possession.
11        Q.    And the individual boxes that your ballot
12   builders use --
13        A.    They were still in-house, yes.
14        Q.    And have those been -- those are still
15   there?
16        A.    Those have -- I believe when the Center for
17   Election Systems transitioned from Kennesaw State to
18   the SOS, that Kennesaw State transitioned all of that
19   hardware over to SOS and that it is still held by
20   SOS.
21        Q.    Okay.  Let me hand to you a couple of pages
22   from Judge Totenberg's decision dated September 17th,
23   2018.  And this is the judge's opinion based upon
24   allegations in the plaintiff's complaint.  And I want
25   to see what you know about these allegations, if
```

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1   anything.

2   If you look on the second page of what I

3   have given to you, and this is 334 F. Supp 3rd 1303.

4   And the jump side is 1310. The order says: But on

5   July 7, 2017, four days after this lawsuit was

6   originally filed -- and I'm reading from the second

7   column.

8   A.   Uh-huh.

9   Q.   Toward the top. Do you see that?

10   A.   Yes.

11   Q.   But on -- to start over.

12   But on July 7, 2017, four days after this

13   lawsuit was originally filed in Fulton Superior

14   Court, all data on the hard drives of the

15   University's elections.KSU -- Kennesaw.edu server was

16   destroyed.

17   Do you see that?

18   A.   I do.

19   Q.   And that would have been after -- best of

20   your recollection, after the Attorney General had

21   circulated a notice to CES at least to hold onto

22   everything, hold onto everything you got, right?

23   A.   Uh-huh.

24   Q.   Is that a yes?

25   A.   My recollection of the event is yes, that

Page 85

1   we had received notification from -- CES had received

2   notification from legal counsel at KSU to retain all

3   information.

4   Q.   Did that come from Jeff Milsteen probably?

5   A.   He was legal counsel for KSU, so, yes.

6   Q.   So Milsteen tells CES hold onto everything

7   you got, right?

8   A.   Uh-huh.

9   Q.   Do you know if he sent the same thing to

10 KSU?

11   A.   I do not know.

12   Q.   Do you know that he did not?

13   A.   I do not know.

14   Q.   Just he might not have?

15   A.   I don't know what communications.

16   Q.   But at -- at that time when you got it, not

17 suggesting that you had to, but you didn't say to

18 Kennesaw, you have got my gear that was accessed,

19 don't do anything with it, did you?

20   A.   No.

21   Q.   Okay. Do you have any reason to believe

22 that Kennesaw itself, apart from CES, did not receive

23 that notification --

24   A.   I don't know.

25   Q.   But in any event, after you got the

Page 86

1   notification to hold everything, Kennesaw IT

2   destroyed that server, correct?

3   A.   Kennesaw ID -- Kennesaw IT followed their

4   protocol for doing whatever with servers in this

5   instance, but I -- I don't -- I don't know what they

6   did, but they followed their protocol. That's what

7   was relayed to us.

8   Q.   And your understanding was that protocol

9   involved wiping the system.

10   A.   That's my understanding.

11   Q.   Okay. And do you know if Kennesaw took a

12 picture of what it destroyed?

13   A.   I do not know.

14   Q.   Okay. The next sentence of Judge

15 Totenberg's order says: And on August 9, 2017, less

16 than a day after this action was removed to this

17 court, all data on the hard drives of a secondary

18 server which contains similar information to the

19 elections.Kennesaw.edu server was also destroyed.

20   Do you see that?

21   A.   I do.

22   Q.   Was there a secondary server?

23   A.   I do not know what that speaks of.

24   Q.   Okay. Were you -- were you aware of --

25 could this have been the Unicoi server; do you know?

Page 87

1   A.   I don't know.

2   Q.   So you don't know what was destroyed on

3   August 9?

4   A.   No, I do not.

5   Q.   And same question as before: You don't

6   know if a picture was taken of what was destroyed?

7   A.   I do not know.

8   Q.   So just to wrap all this up, as far as you

9   know, there is no record of what Kennesaw destroyed

10   either -- on either occasion, as far as you know?

11   A.   That's -- I do not know. As far as I know,

12   yes, I have no knowledge.

13   Q.   Right. You couldn't -- you couldn't find

14   it.

15   A.   I couldn't find it.

16   Q.   Okay.

17   Let me hand you what will be marked as

18   Exhibit 22.

19   (Plaintiffs' Exhibit 22, Diebold Election

20   Systems, Inc. 2005 GEMS 1.18 User's Guide, 12.4

21   Challenge Board, marked for identification.)

22   Q   (By Mr. Brown) Mr. Barnes, you have seen

23   GEMS user's guides before; is that right?

24   A.   I have.

25   Q.   And you will notice that this one is dated

Page 88

1   2005. Do you see that?

2   A.   Uh-huh. Uh-huh.

3   Q.   And do you have a user's guide that's newer

4   than that?

5   A.   I don't know if I have one newer than this

6   or not.

7   Q.   This particular exhibit relates to the

8   challenge board. Do you see that?

9   A.   I do.

10   Q.   And what's the challenge board?

11   A.   That is a function in the election

12 management system that we do not use in the State of

13 Georgia.

14   Q.   Why don't you use it; do you know?

15   A.   It is -- it's a tool within the database we

16 don't use.

17   Q.   Okay. Let me direct your attention to page

18 12.13 of Exhibit 22. Let me just ask you this: Does

19 this look like a GEMS database user's guide to you?

20   A.   It does.

21   Q.   Might be dated?

22   A.   Correct.

23   Q.   And looking at page 12-13, what would

24 you -- is this a -- is this a table that we are

25 looking at, could you call it that?

Page 89

1   A.   Yes, it appears to be a table.

2   Q.   Okay. And do you see where it deals with

3   challenged voters there in the middle?

4   A.   Yes.

5   Q.   It has a voter ID column; do you see that?

6   A.   I do.

7   Q.   And what's a voter ID?

8   A.   I don't know.

9   Q.   Don't know?

10   A.   Don't know what that number is.

11   Q.   Is there a voter ID column that's used --

12   well, field, I guess, that's used in other

13   applications within GEMS?

14   A.   I -- I do not know.

15   Q.   Do you know if the State used to use a

16   challenge board within your tenure or they just

17   never, as far as you know, never used it?

18   A.   I'm trying to recall when the State first

19   started doing in-person advanced voting on DREs.

20   There was a operation used that may have then

21   involved the challenge board, but I don't know if it

22   involved the challenge board.

23   Q.   And just for the record, I'm going to get

24   you to identify Exhibit 23.

25   (Plaintiffs' Exhibit 23, Diebold Election

Page 90

1   Systems, Inc. 2005 GEMS 1.18 User's Guide, 2.3

2   Deleting a Database, marked for identification.)

3   Q   (By Mr. Brown) And just for the record,

4   does Exhibit 23 look like other pages from a GEMS

5   user's guide?

6   A.   It does.

7   Q.   And what the GEMS user's guide and what

8   GEMS in general does is allow the ballot builder to

9   go through a particular election and configure all

10   the variables that go into building the ballot,

11   correct?

12   A.   That is correct.

13   Q.   And the way it's configured is a series of

14   different queries or options that the ballot builder

15   will take to configure the election correctly,

16   correct?

17   A.   Correct.

18   Q.   And the ballot builder will do this

19   exercise for every single ballot combination -- or

20   ballot -- I want to use the right words.

21   A.   What a ballot builder does in building

22   their database is first set the -- you know, the

23   styles of the ballot. Is it going to be a

24   three-column ballot or name of the -- name of the

25   election, what -- are you using optical scan ballots,

Page 91

1   are you using touch screen ballots. What the font

2   sizes are going to be in play for candidate names.

3   What coloring may be appearing on the ballot and then

4   touch screen display. Setting up sort of like the

5   framework of the database.

6   And then it's a matter of entering in the

7   political districts and their subdistricts. The

8   precincts and their district combos, the polling

9   locations and relating those factors.

10   Q.   Will they -- will they start the exercise

11 from step one for each ballot or will there be a

12 template per county that gets copied into the next

13 ones?

14   A.   The -- what normally transpires is the

15 database that was used in the preceding election is

16 sort of a start point where previous election

17 information districting races and such are removed

18 and then a new database is built from that point

19 forward.

20   Q.   So it might contain some information from

21 the previous one.

22   A.   It might, yes.

23   Q.   Okay.

24   Let me show you what will be marked as

25 Exhibit 24.

Page 92

1   (Plaintiffs' Exhibit 24, Ballot image

2   printout from GEMS computer, marked for

3   identification.)

4   Q   (By Mr. Brown) Can you identify Exhibit 24?

5   A.   It appears to be a ballot image printout

6   from the GEMS computer.

7   Q.   And can you tell looking at it what county

8   this would have come from?

9   A.   I don't see a county designation on it. I

10   see a precinct designation.

11   Q.   So if you knew where Red Oak was, you would

12   know what county it was?

13   A.   Yes, I could -- I could -- I could

14   determine, yes.

15   Q.   Okay. And what is a ballot image report

16   used for?

17   A.   A ballot image report can be generated from

18   GEMS to show what was captured by specific DRE

19   machine.

20   Q.   And what was captured by a specific DRE

21   machine for a particular voter?

22   A.   Not for a particular voter, but a ballot

23   cast.

24   Q.   What's the difference between a particular

25   voter and for ballot cast?

Page 93

1   A.   When we cast a ballot, there's not an

2   identifying element that's connected to the ballot at

3   the time of cast. It is simply ballot style. And

4   when the ballot style, when the touch screen hits

5   cast, when you hit cast vote on the touch screen, it

6   then assigns a numeric value to the collection of

7   data it just received from that interaction.

8   Q.   And the numeric value is then associated

9   with the ballot, not with the voter?

10   A.   Correct.

11   Q.   And how is the numeric value generated?

12   A.   How it generates a random number, I don't

13   know how it generates, but a random number is

14   assigned to that at the time the ballot is cast.

15   Q.   It's by random number generator rather than

16   sequence; is that your understanding?

17   A.   Right.

18   Q.   And then that random number then is stuck

19   to, for lack of a better expression, that cast

20   ballot; is that right?

21   A.   That would be correct, yes.

22   Q.   The -- this particular printout does not

23   show a voter SN; do you see that?

24   A.   I do.

25   Q.   Why is there a field for a voter SN?

Page 94

1   A.   I do not know.

2   Q.   Is there an option in GEMS to show the

3   voter SN there?

4   A.   I do not know.

5   Q.   And the voter SN would be the way to

6   identify a voter?

7   A.   I do not know.

8   Q.   So it could be that if you configured the

9   report differently, the ballot image report could

10   identify the voter; is that right?

11   A.   I have never seen a way to configure the

12   report.

13   MR. BROWN: Let's take a break for a

14   second.

15   THE VIDEOGRAPHER: The time is 12:34 p.m.

16   We are off the record.

17   (WHEREUPON, a recess was taken.)

18   THE VIDEOGRAPHER: Stand by.

19   The time is 12:35 p.m.   We are back on the

20   record.

21   Q.   (By Mr. Brown) You testified that the

22   voter -- do you know what the SN would stand for?

23   A.   I do not.

24   Q.   That blank is not used now, as far as you

25   know?

Page 95

1   A.   As far as I know now, I do not know why

2   that's there.

3   Q.   Okay. And do you know if that was used

4   back in, earlier in the 2000s when there was a

5   challenge procedure available? Do you know if that

6   might have been used then?

7   A.   I don't know if that number correlates back

8   to that position.

9   Q.   Okay. Looking at Exhibit 24. Do you see

10   any personal information on 24?

11   A.   I do not.

12   Q.   Do you see any private or sensitive

13   information on here?

14   A.   I see the vote recorded.

15   Q.   Is there -- would disclosing this publicly

16   present any sort of security risk that you know of?

17   A.   I do not believe.

18   Q.   Okay.

19   Let me hand to you what has been marked --

20   what will be marked as Exhibit 25.

21   (Plaintiffs' Exhibit 25, Ballot image

22   report from a GEMS computer, marked for

23   identification.)

24   Q   (By Mr. Brown) And what is Exhibit 25?

25   A.   It is also a ballot image report from a

Page 96

1   GEMS computer.

2   Q.   And why does -- why is 25 different than

3   24?

4   A.   When you are creating a record from the

5   ballot view section, there is a check box that by

6   default is unchecked. If it remains unchecked, then

7   the image that generates only shows the selections

8   that the voter made. If it is -- if there is a check

9   mark placed in that box, then it will produce an

10   image that shows the selection that the candidate

11   made per race and all other candidates listed.

12   Q.   So here this appears to be a Atlanta city

13   council race; is that right?

14   A.   It appears to be, yes.

15   Q.   And the first page just shows that an

16   unknown voter voted for Mr. Amos, correct?

17   A.   Correct.

18   Q.   And the -- is the ballot serial number, is

19   that probably what SN stands for?

20   A.   That would be my guess, yes.

21   Q.   And is that the random-generated number

22   there?

23   A.   That -- yes.

24   Q.   Okay. Then it -- turn in the page in

25   Exhibit 25, here is another ballot from a --

Page 97

1   hopefully a different voter also voting for Mr. Amos.

2   A.   Uh-huh.

3   Q.   And then these are just examples, but same

4   race, just different ballot serial numbers, correct?

5   A.   Correct.

6   Q.   Now, if -- you testified that when the cast

7   vote button is mashed, that the system generates a

8   number that goes with the cast ballot. And to your

9   testimony, the identity of the voter is lost forever.

10   Fair enough?

11   A.   Uh-huh.

12   Q.   As far as the system knows, correct?

13   A.   I don't believe that it ever knew who the

14   voter was to begin with.

15   Q.   Well, they would know -- they would know --

16   wait. Is that right? The voter gets a yellow card,

17   right?

18   A.   The voter checks in on Express Poll. The

19   record is marked as participating. And then a voter

20   access card is created containing a code that tells

21   the DRE what ballot style to display.

22   Q.   But that card does not identify the voter

23   either?

24   A.   Correct.

25   Q.   Okay. So an anonymous person holding an

Page 98

1   anonymous yellow card -- I say "yellow," but you know

2   what I'm talking about, the card that goes into the

3   DRE machine, correct?

4   A.   Uh-huh, yes.

5   Q.   The machine doesn't know who the voter is,

6   right?

7   A.   Correct.

8   Q.   The voter hasn't told them; is that -- is

9   that right?

10   A.   The voter presented themselves with their

11   ID to the poll worker, was found to be an eligible

12   participant. And then they create a voter access

13   card that tells the -- tells the DRE what blank

14   ballot image to display for that voter.

15   Q.   For that voter as a class of people who get

16   that ballot style, correct?

17   A.   Correct. That voter is part of a district

18   combo value. That district combo value is the

19   identifier on the card that tells the device what

20   ballot to show.

21   Q.   Is there -- are you aware of a method of

22   assigning the voter's identity onto the yellow card

23   that the voter is given?

24   A.   I am aware of when the State started doing

25   in-person absentee balloting, I believe in 2003, 2004

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1   I think. 2003, 2004. That due to statute, an

2   absentee ballot at the time of casting could not be

3   counted. It had to be held.

4   But the State wanted to use DRE equipment

5   to -- for in-person absentee voting because all

6   ballot styles could be assigned to a DRE. So that

7   the State decided to use the feature in the system,

8   the challenged voter feature, which allowed the --

9   during advanced voting allowed the user to create a

10   voter access card, and at the time of creating the

11   voter access card could put a numeric value of that

12   card. And then that numeric value was placed in the

13   record as being for Voter X, Y or Z.

14   And then the voter access card would be

15   placed into the touch screen. The ballot would be

16   cast, but it would not be counted. It would be sort

17   of held in an electronic envelope and the electronic

18   envelope had that numeric value on top of it. Very

19   similar to how an absentee ballot when it's sent back

20   in has the voter's identification on it, but the

21   ballot is contained there within.

22   And until the ballot was accepted on the

23   touch screen or not, it sort of stayed in a purgatory

24   state. You just knew that there was a ballot there,

25   the content you did not know. You just knew that

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1   there was a ballot there that just had to be

2   accepted.

3   Q.   So for legal reasons, the vote could be

4   made and accepted by the poll office, but couldn't

5   technically be counted until election day; is that

6   what it was?

7   A.   Legally, the -- the absentee voter could

8   cast their ballots, but the way the statute was

9   written for advanced vote -- absentee voting at the

10 time is that a ballot could not be counted until end

11 of the close of the polls on election day. That

12 statute got changed, I believe, in 2007.

13   Q.   Why was it necessary to assign a voter

14 identity to a ballot that was cast and held during

15 that time period?

16   A.   The in-person absentee was absentee voting.

17 And there was clear statute on the books in relation

18 to how absentee ballots had to be maintained. And

19 statute said that if absentee ballot is returned that

20 it is held and not opened until close of polls on

21 election day. And then the ballot would be extracted

22 from the signed envelope and then counted.

23   So the State interpreted the legislative

24 intent as we have to hold these ballots in that

25 state. And I believe the mindset was that if a voter

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1   came in and voted in absentee balloting under the

2   statute but then passed away before close of polls on

3   election day, the election office would be notified

4   of that death and then they would have the ability to

5   go back in, find that ID number, and then the ballot

6   is there, but it would not be accepted.

7   Q.   Is there then functionality in either the

8   Express Poll book system or the GEMS system to assign

9   and keep a voter identity attached to a cast ballot?

10   A.   I'm not aware of an operation within the

11   Express Poll. The DRE, if it's used to create a

12   voter access card, there is a way to assign it as a

13   challenged voter access card and assign a numeric

14   value.

15   Q.   And so if you did through the challenge

16   vote process the DRE, the GEMS system would know who

17   cast that vote.

18   A.   They would be -- I assume there would be a

19   number tied to it. Who it was, I wouldn't know.

20   Q.   In configuring a ballot, the ballot

21   building process, is there an option for allowing the

22   DRE to retain the identity of the voter?

23   A.   Say again.

24   Q.   When you are building a ballot, could you

25   turn on or off the ability of the DREs to tag an

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1   individual voter to a cast ballot?

2   A.   I do not believe there is a toggle

3   on-and-off switch in GEMS for that action.

4   Q.   Okay.

5   Do the smart cards now have a unique number

6   assigned to a ballot?

7   A.   The -- what information is placed directly

8   onto the smart card, I don't know the direct

9   information. I can only speak to it in the operation

10   that is taking place.

11   The DRE device within a polling location

12   has a associated number of district combos with

13   correlating balance styles connected thereto. The

14   voter access card tells the DRE machine what district

15   combo value the voter is connected to based upon the

16   Express Poll creating the voter access card. And

17   then the DRE knows that if that voter is combo 203 in

18   this poll location, that they are eligible for ballot

19   style one.

20   Q.   Okay. In Express Poll book piece of the

21   process.

22   A.   Uh-huh.

23   Q.   The poll worker would retain or record the

24   serial number of a -- of the smart card that a

25   particular voter got?

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1   A.   No.

2   Q.   Okay. So if I go up to vote, and say I'm

3   Bruce Brown, I live in Morningside, I want to vote,

4   they give me a card, there's no record made of which

5   card I got; is that right, as far as you know?

6   A.   That's correct.

7   MR. BROWN: Okay. Let's take a break for

8   lunch.

9   THE VIDEOGRAPHER: The time is 12:49 p.m.

10   We are now off the record.

11   (WHEREUPON, a recess was taken.)

12   THE VIDEOGRAPHER: The time is 1:55 p.m.,

13   and we are back on the record.

14   Q.   (By Mr. Brown) Mr. Barnes, we are back from

15   a lunch break.

16   Let me hand to you what we are going to

17   mark as Exhibit 26.

18   MR. BROWN: And for the record, I do not

19   have copies of this, but Exhibit 26 is simply a

20   handwritten page that takes some information

21   from document requests that we served upon

22   Fulton County. And the purpose of this is

23   simply to ask the witness some questions about

24   some numbers that appear on the DRE screen.

25   And so this exhibit simply says, Fulton,

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1   May 22nd, 2018 and then the precinct number.

2   And then it gives two specific numbers that we

3   believe appear on the screen. So I'm going to

4   ask about those, but I don't have a copy.

5   Q   (By Mr. Brown) Let me hand you what is

6   Exhibit 26. I just have a few questions on that.

7   (Plaintiffs' Exhibit 26, Handwritten page,

8   marked for identification.)

9   Q   (By Mr. Brown) Mr. Barnes, I hand you 26

10   which I have described. It has two numbers that I

11   will represent to you -- you don't have to believe

12   it, but I will represent to you, appeared on the DRE

13   screen after a voter voted. And do you know what

14   those numbers would be or what they would be for?

15   A.   I do believe so, yes, sir.

16   Q.   And what are they for?

17   A.   The 848 number is a district combo value.

18   The 07H number is the precinct. And the 66 is the

19   ballot ID number, the ballot style.

20   Q.   It's the, the identification of the style,

21   not of the -- not of the voter or anything?

22   A.   Correct. It is the style. Yes. Ballot

23   style 66.

24   Q.   Let me go back to another question that I

25   asked you and I wasn't sure about your response.

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 1              The smart card that the voter gets from --

 2    after he -- before -- that he puts into the DRE

 3    machine; are you with me?

 4         A.    Uh-huh.

 5         Q.    Is the -- is there any kind of

 6    identification on the smart card that would link that

 7    card to the voter?

 8         A.    No, sir.

 9         Q.    Does the registration official keep any

10    kind of record manually or electronically at their

11    desk that would link the smart card to the voter?

12         A.    The -- there's nothing collected manually.

13    The Express Poll creates a transaction record.  The

14    transaction record indicates the voter ID of --

15    that's in action, the voter, that's how they

16    recognize the voter is through the voter ID,

17    registration number of the voter.  And part of that

18    transaction record outlines what ballot type the

19    voter was given.  It outlines whether they voted the

20    Republican ballot or the Democratic ballot, if it's a

21    primary, and what ballot style they were issued and

22    that's recorded in the transaction record.

23         Q.    And that's so that you can't vote twice,

24    right?

25         A.    The transaction record keeps a record of
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 1    who has been issued a voter access card and what

 2    ballot style they were issued in correlation to their

 3    associated district combo value.

 4         Q.   Is the -- is there any way to know, based

 5    upon that information, which smart card he or she

 6    received?

 7         A.   No.

 8         Q.   Do the smart cards have a unique

 9    identifier?

10         A.   The smart cards do not have a unique

11    identifier.

12         Q.   So there's nothing on the smart card that

13    says I am 45645?

14         A.   That would be correct.

15         Q.   Okay.  Turn, if you will, in the big

16    exhibit, which is 21, I believe, to Number 110.  Are

17    you with me?

18         A.   Yes, sir.

19         Q.   Have you seen the document that is

20    reproduced at Bates label 110 through 113 before?

21         A.   I believe this is a report written in

22    conjunction with KSU IT department and the Center for

23    Elections.

24         Q.   And did you have a role in preparing this?

25         A.   In my role as director for the center, I
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1   would have been involved in some capacity. I'm just

2   trying to -- I'm trying to recall that capacity.

3   Q.   And who -- was there a person who was the

4   primary author of this or under whose name that this

5   went out?

6   A.   I believe it was written by Steven Gay.

7   Q.   And I may have asked you this, but where is

8   Mr. Gay now?

9   A.   I -- I don't know if he is -- excuse me. I

10   do not know if he is still CIO -- excuse me, CIO or

11   with KSU IT currently.

12   Q.   Okay.

13   A.   He previously was at the time. I do not

14   know if he is still there or not.

15   Q.   Okay. Now, the -- if you look under

16   Actions Taken, do you see that?

17   A.   Yes, sir.

18   Q.   It says: Within an hour of initial

19   contact, the vulnerability was confirmed. But the

20   initial contact was actually Mr. Lamb, right, which

21   was months before?

22   A.   This -- this document is only pertaining to

23   the incident that happened on March 1st as the

24   document indicates.

25   Q.   But wouldn't a reasonable reader infer from

Page 108

1 this that there was not an earlier contact?

2   A.   I don't know what someone would infer.

3   Q.   Did you -- did it occur to you that, you

4 know, in all fairness, that that earlier intrusion

5 should be reported also?

6   A.   At the time of this report being written,

7 my full focus was on this incident. And, again, this

8 was written in compilation with KSU IT.

9   Q.   If you look at -- if you look at -- if you

10 go down to Kennesaw where it's bold, Kennesaw,

11 Georgia --

12   A.   Uh-huh.

13   Q.   -- March 31st. It says that no personal

14 information was compromised. Do you see that?

15   A.   I do, sir.

16   Q.   But isn't it true that Logan, Grayson and

17 Green all confirmed that millions of pieces of data,

18 including personal information was available, open on

19 the Internet?

20   A.   I believe this document is written in

21 response to a KSU press release that was issued in

22 relation to this based upon investigation provided

23 back to them by the FBI.

24   Q.   So it was -- okay.

25   So KSU released a statement that no

Page 109

1   personal information was compromised and that's just

2   not correct, right?

3   A.   I'm only speaking to what's before me in

4   the document.

5   Q.   Okay. But you would not agree that no

6   personal information was compromised.

7   A.   I do not know if personal information was

8   compromised or not.

9   Q.   But you know that millions of pieces of

10 data about people, including personal information,

11 was available on the Internet to be compromised for

12 many months, right?

13   A.   I know that the Center for Election System

14 placed an Express Poll data set on its web server for

15 access for counties. Who gained access other than

16 the counties, I am unaware.

17   Q.   But -- but -- well, just cutting to the

18 chase, you know, Mr. Lamb could get in, Mr. Grayson

19 could get in, Mr. Green, who was a professor at

20 Kennesaw, confirmed that all of this information had

21 been compromised and was vulnerable. Correct?

22   A.   Based upon the documentation, yes, sir.

23   Q.   Okay.

24   Okay. Let me direct your attention to page

25 64. Can you describe for me the process and the

Page 110

1   people involved in deciding to wipe the two servers?

2   What do you know about that?

3   A.   I know that the servers were in the

4   possession of Steven Gay, who was the head of KSU IT

5   and KSU IT had taken possession of the servers and

6   were in control of the servers at that point.

7   Q.   But you knew what they were doing with it,

8   right?

9   A.   I knew they had possession of the servers.

10   Q.   And you knew that they were going to wipe

11 the servers, right?

12   A.   It's my understanding that they had

13 intention of trying to reuse the servers in some

14 other capacity within the University.

15   Q.   And to do that they were going to wipe the

16 servers of the election information.

17   A.   I did not know what they were going to do

18 with the servers. I knew that they had possession of

19 the servers and had intent to reuse them in some

20 capacity outside the Center for Election Systems.

21   Q.   And you didn't tell them to wipe it or to

22 save it.

23   A.   I did not. I entrusted the protection of

24 the devices, that hardware, in the hands of KSU IT

25 because I felt like that was the best course of

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 1   action.
 2       Q.    Let me direct your attention to page 65.
 3   And this is still in Exhibit 21.
 4           Mr. Gay writes:  We need to develop a
 5   comprehensive inventory of all assets on the CES
 6   private network.
 7           What is that?
 8       A.    That is what we referred to as our
 9   air-gapped system where we kept our GEMS databases
10   during construction, the private terminals we spoke
11   of earlier today that ballot builders would do their
12   work, the hard-line network.
13       Q.    The hard-line network between the
14   individual computers with the GEMS databases that
15   were used by the ballot builders --
16       A.    Correct.
17       Q.    -- that wired into the --
18       A.    Ballot builder server.
19       Q.    -- ballot builder server.
20       A.    Yes, sir.
21       Q.    Okay.
22           Let me go back to the discussion that we
23   had about the overall system and how the database
24   information migrated through it.
25           The -- in 2016, you had the ballot builder
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1   server and you had the web server and you had the

2   Epic server, correct?

3   A.   Correct.

4   Q.   And tell me again what was on the Epic

5   server.

6   A.   The Epic server contained voter information

7   extracted from the voter registration system as well

8   as election database files, so that those two things

9   could be brought together through a program called

10   Epic that would create the Express Poll data sets

11   that are used for election on the Express Poll ePoll

12   devices.

13   Q.   And then how does that information make it

14   to the ePoll books computers that are in a polling

15   place?

16   A.   Once the data file is compiled on the

17   Express Poll -- on the Epic server, it has to be

18   extracted from the Epic server. And it's done

19   through a formatted compact flash card that's

20   formatted before it's inserted into the Epic server.

21   And then the data is copied from the Epic server onto

22   the compact flash card, a single compact flash card.

23   The compact flash card is then placed into

24   an Express Poll unit device and the data file is

25   inspected to make sure that the data file is

Page 113

1 operational. That it can be read by the Express

2 Poll, that it is responsive to commands, that the

3 display is showing information as it should be

4 displayed.

5   Once that information is checked and

6 verified, then that flash card is then removed from

7 the compact flash card. It is placed back into a

8 compact flash card reader to access the file

9 directory. And the transaction log that had been

10 created in that single insertion of the Express Poll

11 is then removed from that compact flash card so that

12 we remain with the base four data files that are --

13 make up the Express Poll data set.

14   That compact flash card is then taken to a

15 duplicating stack where that compact flash card is

16 inserted and then duplicate copies of that compact

17 flash card are created. The duplication process is a

18 full image of the compact flash card. The data files

19 and all empty spaces on the compact flash card is

20 duplicated onto other compact flash cards.

21   Those compact flash cards are then bundled

22 into secured bags for each individual county and then

23 those bags delivered to the county election offices.

24   Q.   Okay. Now, the Epic computer, was it

25 replaced, has it been replaced since 2016?

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1   A.   It has been, yes, sir.

2   Q.   And what's used now, same thing, just

3   different computer?

4   A.   It's the same program sitting on a new

5   hardware.

6   Q.   What type of hardware?

7   A.   You would have to ask SOS IT that question.

8   Q.   It's just a computer?

9   A.   It's -- it's a server level computer. What

10   type, you would have to ask SOS IT.

11   Q.   Okay. And then the other two servers that

12   were there, one was the ballot builder computer.

13   A.   Uh-huh.

14   Q.   And the web-facing -- the web server. Are

15   you with me?

16   A.   Correct. Correct.

17   Q.   The web server itself is no longer in use.

18   A.   Where that physical box is and what

19   condition it is, I do not know.

20   Q.   Okay. And that you have a computer now

21   though that is in function the ballot builder,

22   correct?

23   A.   Correct.

24   Q.   Okay. Is it the same hardware or different

25   hardware?

Page 115

1   A.   It's, again, a new hardware running the

2   same existing program.

3   Q.   Okay. What's -- and then you have the

4   array of computers that the ballot builders work on.

5   A.   Uh-huh.

6   Q.   Those same type of computers now, right?

7   A.   Those are all new hardware purchased by

8   Secretary of State's office, managed by the Secretary

9   of State's office.

10   Q.   Okay. Now, the -- are you using GEMS

11   databases that were in use in 2016 when Logan Lamb

12   accessed the web server information?

13   A.   We are using -- ask the question --

14   Q.   Is the -- is the GEMS databases that were

15   in use in August of 2016, are you still using those

16   databases? Now I'm going to ask a couple more

17   follow-up questions.

18   A.   Each -- each database is built specifically

19   for the election. Does it have long-term audit

20   history of preexisting that build?

21   Q.   Right.

22   A.   Yes, it would.

23   Q.   And just sort of cut to the chase. If

24   malware were introduced into the system in 2016 or

25   before, has the -- either the computers or the

Page 116

1   applications in your office been checked to see if

2   there's malware in it?

3   MR. TYSON: I'll object that it lacks

4   foundation on malware being introduced and calls

5   for speculation.

6   You can answer if you can.

7   A.   The install of the GEMS executable program

8   on the hardware maintained by the Secretary of

9   State's office?

10   Q.   (By Mr. Brown) Today, the one that's done

11   today.

12   A.   Maintained today. When -- when it was

13   installed, that program, that GEMS executable

14   program, was compared, a hash signature was compared

15   of it with the GEMS executable that was brought

16   forward to the Secretary of State's office to the

17   State of Georgia in 2001 -- 2001, 2011 -- to validate

18   that it had the same hash signature as that that had

19   been built from a trusted built from a voting system

20   testing lab. I believe the lab at the time was

21   Cyber. And the hash compare came back clean.

22   Q.   Which meant what to you?

23   A.   Meant that the executable program of GEMS

24   did not contain any malware. It was exactly the same

25   program as it was once as installed in 2011.

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1   Q.   And that's with respect to the GEMS

2 database that was at the Secretary of State's office,

3 correct?

4   A.   The GEMS executable program, yes.

5   Q.   Okay. Thank you.

6   Now, counties have GEMS executable

7 programs, right?

8   A.   They do.

9   Q.   Was a similar sort of testing done with

10 respect to their programs?

11   A.   The last state-wide examination of the GEMS

12 executable file state-wide was done in 2015. Since

13 that state-wide examination, we have visited numerous

14 counties through '16, '17, '18, and '19, and

15 continued to run this verification process every

16 time. And to this date, we have not found any

17 mismatches.

18   Q.   What sort of verification process?

19   A.   It's a hash signature compare.

20   Q.   And how many different counties have you

21 done a hash signature compare operation to?

22   A.   Every time anybody from my office goes to a

23 county, we run the hash signature compare. Again, as

24 previously stated, we did a state-wide inspection of

25 159 GEMS computers in 2015. Since then, we have been

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1   continually visiting counties.

2   I don't know the number offhand how many we

3   tested in '16, how many was '17, how many was '18,

4   how many was '19, but we have continued to test

5   through those years and have still found no

6   mismatches.

7   Q.   And you don't know if you have covered

8   every county or not sitting here.

9   A.   Do I know if I have covered every county

10   since 215, 2015, I do not.

11   Q.   Yes.

12   A.   I do not.

13   Q.   What is the utility that you use?

14   A.   We call it GEMS Verify.

15   Q.   And who makes it?

16   A.   It was built by the Computer Science and

17   Information Security Division -- I believe that was

18   the name of the office -- at Kennesaw State

19   University. The professor was Dr. Mike Whitman.

20   Q.   Has any kind of testing been done to the

21   memory cards that go from the county GEMS server to

22   the individual DREs?

23   A.   What type of testing?

24   Q.   Testing to see if there -- if there's

25   anything wrong with them, if there's any malware in

Page 119

 1   it or anything else.

 2   A.   The last time that all of the compact flash

 3   cards were brought in from the -- not compact flash

 4   cards, the memory cards --

 5   Q.   Memory cards.

 6   A.   -- for touch screens, the last time they

 7   were all brought into the State and pristine, clean

 8   images, reformatted images placed onto those devices,

 9   I believe was in -- I'm guessing on the year, but I

10   believe it was done in -- it was either 2013 or 2015.

11   Q.   Okay. And then the same question for the

12   internal memory of the DRE voting machines

13   themselves. Have those -- has that internal memory

14   for those machines been tested or checked in any way?

15   A.   No, sir.

16   Q.   Okay.

17   MR. BROWN: Twenty-seven.

18   THE REPORTER: Twenty-seven.

19   (Plaintiffs' Exhibit 27, Direct Record

20   Electronic Voting Machine Recap records, marked

21   for identification.)

22   Q.   (By Mr. Brown) Let me hand you what has

23   been marked as Exhibit 27.

24   MR. BROWN: Here you go, Kaye. Wait. I

25   gave you too many.

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1   Q   (By Mr. Brown) Do you know what Exhibit 27

2   is, sir?

3   A.   It appears to be a what I would call a DRE

4   voting recap machine from a polling location.

5   Q.   And what is that used for?

6   A.   This is used as work done at the polling

7   location by poll workers for reconciliation purposes

8   where they verify the equipment at open to

9   validate -- the first part of the form is filled out

10   at the conclusion of logic and accuracy testing to

11   indicate the devices that have been assigned to that

12   aforementioned voting location. And the seal number

13   that was placed on the device at the time the test

14   was concluded.

15   And then on election morning, the poll

16   workers begin filling out these numbers upon opening.

17   They validate that the seal number that was on the

18   device at the time of completion of testing is still

19   the seal attached to that unit. If that seal is

20   there, then they can break and remove the seal, turn

21   on the machine and validate the count that's on the

22   machine.

23   The machine should be at zero where it

24   starts off first thing in the morning and they

25   document that fact here in the record. And then at

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1   the end of the polling day, they sort of go back --

2   they end the process in the election and then they

3   record the total number of votes, ballots collected

4   by each individual device. That's what's in the last

5   column under count number. And then the seal number

6   is what's placed on the device once the memory card

7   is removed and the unit closed.

8   Q.   And then there's a, kind of a

9   reconciliation in the bottom half of the, of the

10   form; is that right?

11   A.   Yes, sir. It takes information collected

12   from the Express Polls to document the total number

13   of voters that were issued voter access cards by

14   party association, if necessary. And then there's a

15   reconciliation done at the very bottom.

16   Q.   Is there any sort of private or information

17   on here? Any security-related information that

18   you --

19   A.   I mean, seal numbers prior to opening would

20   be something I would concern -- be concerned with.

21   But seal numbers placed on after closing, serial

22   numbers of devices, perhaps not.

23   Q.   And why are -- why is that confidential,

24   the serial numbers prior to opening?

25   A.   I said seal numbers.

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1   Q.   Seal numbers.

2   A.   Seal numbers. Seal numbers.

3   Q.   And that's -- you mean, the seal that --

4   A.   The seal that's attached to the outside of

5   the device.

6   Q.   Okay.

7   A.   If you were attempting to penetrate a

8   system, if you knew what the seal number was, and

9   could replicate a seal, then you could potentially

10   remove a seal, do some action and then place a --

11   then place a duplicate seal in place and you would be

12   potentially avoiding detection.

13   Q.   Okay. Let me hand you what has been marked

14   as Exhibit 28.

15   (Plaintiffs' Exhibit 28, Copy of

16   photograph, marked for identification.)

17   Q   (By Mr. Brown) So that -- but before the

18   machines are installed, they are going to be sitting

19   out in the hallway with their seal number in plain

20   view though, right?

21   A.   I don't know how each individual county

22   delivers their equipment to their polling location,

23   how they maintain it up until the time that it's

24   opened.

25   Q.   Right. But they should keep them sort of

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 1   under wraps.  Is that fair to say?

 2        A.   There are SEB rules in place that counties

 3   are supposed to follow in relation to protecting

 4   their voting equipment throughout the process.

 5        Q.   You are not sure exactly what they specify

 6   with respect to the seal?

 7        A.   I know that there are rules in place that

 8   counties have to follow to maintain their equipment.

 9        Q.   Do you see seal numbers on Exhibit -- on

10   the photo that's Exhibit 28?

11        A.   I do see seals attached to units.  I'm

12   assuming that the number below it is the number equal

13   to what's on the form.  But these appear to be units

14   that are sealed, closed, and then also they have a

15   what's like a cable tie running through them and then

16   the cable tie padlocked.

17        Q.   Is there a way of telling whether this is

18   before polls open or after polls close?

19        A.   The normal procedure, if it's before polls

20   open, it would be a red seal on the unit.  If it is

21   post-election, there would be a blue seal.  That's

22   normal, standard procedure.

23        Q.   So a color picture might disclose that on

24   this?

25        A.   Perhaps.
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1   Q.   Okay.   Now, the -- what assistance, if any,

2   does the Secretary of State give to municipalities in

3   connection with voting?

4   A.   The Secretary of State's office does not

5   work directly with municipalities.   The Secretary of

6   State's office, through statute, works directly With

7   county election officials in preparing election

8   databases, Express Poll data sets.

9   If the municipality is contracting with the

10   county, then we still, the Secretary of State's

11   office direct with the county, but then the county

12   may be then forwarding that work product to

13   municipality for use.

14   Q.   Does -- if there is a municipal election

15   that is not a county election, how does the municipal

16   configure its GEMS database?

17   A.   The municipality is not obligated to use a

18   GEMS.   They are not required to use the DRE system.

19   A municipality can choose whatever form they wish to

20   use for election purpose.

21   Q.   They could use hand-marked paper ballots if

22   they want.

23   A.   If they so choose, yes.

24   Q.   If they choose to use the DRE system, how

25   would they, how do they do that?

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1   A.   If they choose to use the DRE, they have to

2   be first contracting with the county and working with

3   the county to obtain the equipment. Or the

4   municipality has, has the legal where they can

5   contract with a vendor. If the vendor is certified

6   for use, if their equipment is certified for use

7   within the state, then the municipality can contract

8   with the vendor to prepare the necessary media,

9   potentially lease equipment from the vendor for use.

10   But any DRE equipment that might be used by

11   a municipality has to be tested by the State to

12   confirm that what it has matches the State-certified

13   use guidelines.

14   Q.   You mean DRE, the hardware --

15   A.   Correct. Correct. The hardware and the

16   ballot station software residing on the device has to

17   match what's certified for use within the State of

18   Georgia.

19   Q.   Does the Secretary of State review the GEMS

20   database that a municipality that is not contracting

21   with the County builds for a municipal election?

22   A.   What the -- what the vendor does, if the

23   vendor is contracted by the municipality, the vendor

24   would make that database available to the State for

25   the State to inspect, to validate that it is meeting

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1   the guidelines under SEB rules for a DRE-developed

2   ballot.

3   Q.   So before a municipality can use a ballot

4   that's configured through the GEMS database by a

5   third-party vendor, the vendor has to go to the

6   Secretary of State?

7   A.   The vendor has to provide a copy of the

8   database for the Secretary of State's office to

9   review, to confirm that the ballot is meeting the

10   standards within the State Election Board rules for

11   ballot design.

12   Q.   And who in your office is in charge of

13   reviewing those?

14   A.   It would be -- it would be our office. If

15   the ballot builder is available, they review the

16   ballots. If I'm available, I may review the ballots.

17   It's whomever is available at the time that the

18   databases are delivered.

19   Q.   Rough order of magnitude: How many

20   municipalities use the DRE for election in which they

21   are not contracting with the County to do the GEMS

22   database work for them?

23   A.   That are just directly communicating with

24   the vendor for use? Again, this is an estimation.

25   Q.   Sure.

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1   A.   The number in an off-year cycle for

2   November election in an odd-number year, probably

3   less than 20.

4   Q.   Okay. What's the largest?

5   A.   I think it is perhaps the City of Forest

6   Park. Could be the City of Stockbridge. City of

7   Peachtree Corners. Did I say City of College Park?

8   City of Fort Valley. Those are the ones that pop in

9   my head. City of Fort Oglethorpe.

10   Q.   And do they all use the same vendor work?

11   A.   Yes.

12   Q.   And who is the vendor?

13   A.   ES&S.

14   Q.   ES&S is manufacturer of the DRE system.

15   A.   They are the owners of the DRE system, yes.

16   Q.   And does the Secretary of State have a

17   nondisclosure agreement with ES&S for this kind of

18   work?

19   A.   I don't know if a nondisclosure agreement

20   is in effect, but being that ES&S is the state-wide

21   vendor for the State's voting system, it's just sort

22   of how to make sure the databases are accurate and

23   proper.

24   Q.   And does the -- the State of Georgia has an

25   ongoing contract with ES&S.

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1   A.   Correct.

2   Q.   And what -- is it a yearly contract?

3   A.   Yes.

4   Q.   Okay. For maintenance and --

5   A.   Yes.

6   Q.   And license too, right?

7   A.   I -- you would have to ask the Secretary of

8   State's office what all is in the contract with ES&S.

9   Q.   Who at the Secretary of State's office

10   would we ask?

11   A.   General counsel.

12   Q.   Okay. And connected with that there might

13   be nondisclosure or confidentiality agreements?

14   A.   Potentially, yes.

15   Q.   Is it under that umbrella that ES&S would

16   contract with municipalities?

17   A.   ES&S, in the way the statute is written in

18   relation to municipal elections, municipals were in

19   control of their election and they can choose to run

20   the election how they wish. There's only one

21   certified vendor for DRE equipment currently within

22   the State of Georgia and that's ES&S.

23   Q.   Do any municipalities use somebody other

24   than ES&S to do this work?

25   A.   For what work?

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1   Q.   I'm sorry. To do GEMS database work.

2   A.   Not to my knowledge.

3   Q.   Does the Secretary of State directly

4   program any -- or configure any GEMS databases for

5   municipalities?

6   A.   No, sir, we -- we only build databases for

7   counties. If the only thing in the county database

8   is a city election, that could be the content, but

9   the database is built for the county.

10   Q.   And if the county gives it to, say,

11   Lawrenceville or Duluth that's up to them.

12   A.   In that situation, the municipality does

13   not have a GEMS computer. The only GEMS computer is

14   within the county's election office. So there has to

15   be an arrangement between the county and the city in

16   relation to accessing the GEMS component if the

17   municipality needs direct access to the GEMS

18   database.

19   Q.   So Forest Park and Peachtree Corners,

20   et cetera, they don't have a GEMS database.

21   A.   That is -- that is correct.

22   Q.   They simply -- they are leasing the voting

23   machines and what goes in the voting machines is

24   configured by somebody with a GEMS database.

25   A.   The cities you mentioned, I don't know if

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1 they lease the equipment or own the equipment. The

2 vendor, ES&S, once the database has been reviewed and

3 the database is also -- the reports, the proofs and

4 the filed proofs are provided to the jurisdictions

5 for review.

6   Once the jurisdiction signs off on the

7 database, then the vendor has the proper memory cards

8 for the devices, the optical scan units if they are

9 being used for mail-out absentee and provisional.

10 The DRE machines are then created onsite at the

11 Secretary of State's office.

12   Once those memory cards are created, then

13 the vendor delivers that material to the jurisdiction

14 from which they are contracted with.

15   Q.   Well, let me change gears a little bit to

16 the lieutenant governor's race --

17   A.   Okay.

18   Q.   -- this last year.

19   You are familiar with allegations of

20 potential defects in the software that caused an

21 under-vote in the lieutenant governor's race; are you

22 not?

23   A.   I understand there was a -- a high number

24 of under-votes in the lieutenant governor's race,

25 yes, sir.

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1   Q.   And could you describe for me the

2   investigation, if any, that the Secretary of State

3   has undertaken to determine if there was any

4   system-related defect that contributed to that

5   under-vote?

6   A.   I know that Secretary of State's office did

7   visit a county, I believe it was Ben Hill County, in,

8   I don't remember the month, but it was after the LG's

9   race in 2018, to inspect and see if information

10   gathered from the archives of the DRE machines would

11   match the information that was produced from the DRE

12   machines on election night, and reviewed the ballot

13   image reports from GEMS against the totals calculated

14   by the touch screens. Did a hand count of the ballot

15   images from GEMS against the counts recovered from

16   archive on the DRE machines and found all the numbers

17   that were reported from the County on election night

18   were still the same numbers the machines were

19   producing post-election day.

20   Q.   Did anyone review the configuration of the

21   ballots in the GEMS database to see if there was any

22   defect in that configuration?

23   A.   The databases were looked at to confirm

24   that all of the races were present on all of the

25   ballot styles within -- given -- within all the

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1   counties, like lieutenant governor's race was looked

2   at in all counties, and it was present in all ballot

3   styles, all counties, all locations.

4   Q.   And are you referring back to before the

5   election, they wouldn't have gone out if the

6   lieutenant governor --

7   A.   Yes, they would not have gone out if they

8   had not had the lieutenant governor's race on them.

9   Q.   But did somebody check them after the race

10   to make sure they were on all those ballots?

11   A.   I know that I have looked at many a

12   database post-election to confirm again that that

13   race was present on all. I can't say that I have

14   looked at 159 databases. But every database that I

15   have inspected, the lieutenant governor's race was

16   the second race on every ballot issued.

17   Q.   Have you gone sort of one step beyond that

18   looking at the ballot to see if it was configured in

19   such a way that votes for the lieutenant governor

20   would, in fact, be recorded?

21   A.   All testing done previous to the election

22   and tests done on Election Day in parallel monitoring

23   where we obtained, Secretary of State's office

24   obtained a copy of a database from a county GEMS

25   location, and programmed memory cards from four

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1 randomly selected voting locations, randomly selected

2 precincts, and then voted a test pattern on those

3 ballots. Those ballots voted on Election Day during

4 the 12-hour election period all showed the lieutenant

5 governor's race and the votes calculated through that

6 parallel test matched the script that was placed into

7 it.

8   Q.   Does the actual configuration in the

9 database for the lieutenant governor's race include

10 all voters in the state?

11   A.   Say again.

12   Q.   Does the actual configuration in the

13 database have all voters voting for the lieutenant

14 governor's race?

15   A.   The build of the election's database, all,

16 all base precincts to which a voter would be assigned

17 to on Election Day, that base precinct has a ballot

18 style and that base precinct is assigned to the

19 county-wide district. That's the same district to

20 which the lieutenant governor's race is also assigned

21 to.

22   There is one base precinct within each

23 county that would not have had the lieutenant

24 governor's race. In fact, it would not have had the

25 governor's race on it. It would only have had a

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1   federal race on it. And that race is for federal --

2   it's called a federal ballot. It's for federal

3   purposes. It's for those citizens, United States

4   citizens that live abroad. They are United States

5   citizens and they are eligible to vote in the federal

6   election, but they are not a resident within the

7   State of Georgia.

8   Q.   There are affidavits from people who say

9   that the lieutenant governor's race was not on their

10 DRE ballot when it was initially displayed and was

11 not displayed until they reached the summary page.

12 And there is more than one of those. Have you

13 researched that phenomenon?

14   A.   All I can speak to is every database that I

15 have looked at, every database report that I have

16 looked at in connection with preparing for the LG

17 case that was heard earlier this year, in every

18 instance, the LG's race was present within the

19 database, it was present within every ballot style,

20 it was present in the DRE machines as the second race

21 listed to the right of the governor's race on the

22 first page of the ballot.

23   Q.   Are you aware of a faulty configuration

24 that could cause a race to not appear on the ballot

25 screen first, but appear on the summary screen?

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1   A.   I have never seen that.

2   Q.   And you are not aware of a configuration

3   that would cause that?

4   A.   I am not aware of such a configuration.

5   Q.   Does the same configuration drive both

6   pieces of the ballot, the visual ballot on a

7   electronic screen?

8   A.   Meaning what you see in the printed ballot

9   versus what you see on the DRE?

10   Q.   No. Is it -- say you have five races and

11   the ballot builder codes it so you have five races.

12   One national, two state-wide, dog catcher, attorney

13   general, okay, all those five. Having described

14   those races, does the DRE system then automatically

15   populate the summary screen?

16   A.   The summary screen is populated by the race

17   header for each individual race with -- contained

18   within the ballot. So whatever you see on the

19   ballot, where it says: For governor, vote for one,

20   that same header is what you see on the summary

21   screen for each individual race.

22   So if the race appeared on the ballot on

23   the DRE, that same text appears on the summary

24   screen. It's the exact same information.

25   Q.   If -- if you were told that you couldn't

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1   use the DRE machines anymore, the voting machines,

2   but let's say you could, for the time being at least,

3   use the GEMS system to build ballots -- are you with

4   me?

5   A.   Yes.

6   Q.   The work that you would do to design

7   ballots, paper ballots would be the same, correct?

8   A.   Correct.

9   Q.   You just wouldn't get to do the work

10   associated with designing the ballot for the

11   electronic screen; fair enough?

12   A.   The database, we would not have to do

13   anything extra in the design of the ballots. If we

14   did not -- were not allowed to use the DREs, we would

15   just tell the polling location in its database setup

16   that when you create a memory card, you would be

17   creating an optical scan memory card, not a -- not a

18   touch screen memory card.

19   Q.   And the ePoll mechanism for checking on

20   votes could be used pretty much the same way,

21   couldn't it?

22   A.   The Express Poll, the resource file --

23   Q.   Right.

24   A.   -- would have to be adjusted so that the

25   Express Poll would give the operational use to the

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1   poll worker that the -- what -- what currently

2   creates the voter as being marked on the Express Poll

3   is the creation of the voter access card that's used

4   by the DRE. The resource file would have to be

5   reconfigured so that a button would be appearing to

6   move the voter from not voted to voted.

7   Q.   But that's feasible.

8   A.   That would be a redo of the resource file.

9   How -- how much work would have to be done on the

10   resource file, I do not know.

11   Q.   Okay. And then the actual printing of

12   ballots is something that you take instruction from

13   the counties as to who they want to print their

14   ballots, right?

15   A.   Right. Right. The counties provide -- a

16   sign-off sheet is a line that says our printer is X.

17   Q.   And there's a handful of printers --

18   A.   Yes.

19   Q.   -- or dozens?

20   A.   There's -- in the State of Georgia, the

21   printers that are used are ES&S, Printelect, which is

22   based in North Carolina. There's a printer in

23   southeast Georgia, Tattnall Printing, and I think

24   there are a couple other printers that do ballot

25   printing.

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1   MR. BROWN: I'm going to take a break to

2   make sure that my piece is done, got a couple

3   more minutes max, okay. But just a real short

4   break.

5   THE VIDEOGRAPHER: The time is 2:44 p.m.

6   We are now off the record.

7   (WHEREUPON, a recess was taken.)

8   THE VIDEOGRAPHER: The time is 2:49 p.m.

9   We are back on the record.

10   Q.   (By Mr. Brown) Okay. Mr. Barnes, let me

11   hand you again what has been marked as Exhibit 26.

12   If I -- if I told you, okay, that these two

13   individuals lived under the same roof, and therefore

14   it probably isn't a ballot style, if it weren't that,

15   what would that be?

16   MR. TYSON: Object that it calls for

17   speculation.

18   But you can answer if you can.

19   A.   Again, not knowing the configuration of the

20   voting location, a polling location can have multiple

21   precincts assigned to it that have the same combo

22   value. And in this relationship, again, I will stick

23   with my answer saying it's 848 is the combo, 07H is

24   the reporting precincts and 68 is the -- and 64 is

25   the ballot style.

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1   Q.   66 and 74 is the ballot style?

2   A.   Is the ballot style.

3   Q.   Even though those people might be husband

4   and wife, whatever.

5   A.   Yes, that's -- that's the way that I

6   interpret that, that reading right there.

7   Q.   Fair enough.

8   A.   The Democratic ballot, the combo associated

9   to the voter, the precinct associated with the voter

10   and the physical ballot style.

11   Q.   Okay. You -- you mentioned in connection

12   with the ePoll books and the way that that

13   information was transmitted to the counties. I

14   believe you said it was bundled up and secure with

15   compact flash cards, correct?

16   A.   Uh-huh, correct.

17   Q.   Are you -- do those ever get updated in

18   between --

19   A.   After every, after every election the

20   compact flash cards are used in, those compact flash

21   cards are all delivered back to the Secretary of

22   State's office where the transaction record is

23   removed so that we can create the numbered list of

24   voters post-election and also create a file, a text

25   file given to the State that outlines every voter

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1   that participated in the election.

2   Those compact flash cards are maintained by

3   the Secretary of State's office and then they are the

4   same cards we will use again for the next election.

5   And, again, we will go through that formatting

6   process which is a duplication process.

7   Q.   But the information, if it needs to be

8   updated, do you recall Secretary of State's office

9   tweeting out, counties, you need to get your updated

10   ePoll books information or something to that effect?

11   A.   Are you meaning like updating the

12   information prior to Election Day?

13   Q.   Sure.

14   A.   There is a process, once the county has

15   received their compact flash cards that contain the

16   elector's list and everybody that has voted absentee

17   up until the time that data set was created is sent

18   out to the county via the compact flash card. At the

19   end of advanced voting, we have to update or the

20   counties have to update their Express Polls to

21   indicate everybody that has been voted absentee or

22   been issued an absentee ballot through the advanced

23   voting process.

24   It's so that when they come in on Election

25   Day, the poll shows that they have already been

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1 issued an absentee ballot. This is called a "bulk

2 update file." And that update file is a list of

3 registration numbers that is placed, that is

4 generated through Epic at the close of the advanced

5 voting period leading up to an election, and then a

6 single update file is generated for each individual

7 county. That update file is placed on the SOS FTP

8 within each individual county folder and then the

9 county pulls that file down directly and updates

10 their Express Polls.

11   Q.   And before the FTP communications process

12 was used, how was that done?

13   A.   Before the SOS process?

14   Q.   Right.

15   A.   That was done through the

16 elections.Kennesaw.edu web server.

17   Q.   Okay. And do you use your personal e-mail

18 or phone for CES business?

19   A.   No, sir, I do not. I have a state phone

20 and I have a personal phone.

21   Q.   Okay. And what is your state phone number?

22   A.   678-594 -- or no, excuse me. Excuse me.

23 (470) 594-0072, I believe.

24   MR. BROWN: Okay. That's all I have for

25   now. I'm going to switch. We are switching

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1   lawyers at this point.

2   Thank you, Mr. Barnes.

3   THE WITNESS: Uh-huh.

4   THE VIDEOGRAPHER: The time is 2:53 p.m.

5   We are now off the record.

6   (WHEREUPON, a recess was taken.)

7   THE VIDEOGRAPHER: The time is 3:02 p.m.,

8   and we are back on the record.

9   EXAMINATION

10   BY MS. BENTROTT:

11   Q.   Hi, Mr. Barnes. We met off the record. My

12   name is Jane Bentrott. I represent the Curling

13   plaintiffs.

14   A.   Yes, ma'am.

15   Q.   I've got some more questions for you.

16   A.   Okay.

17   Q.   If you don't mind, I just want to go back

18   to some of the things you discussed with my colleague

19   this morning just to make sure I understand some

20   things that I might have missed. I'm going to try to

21   do my best estimation of repeating back to you things

22   you said today. Please correct me if I get any of it

23   wrong.

24   A.   Okay.

25   Q.   You were speaking about the process of

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1   building the ballots and how the ballot builders that

2   build on their own ballot building computer and then

3   there's the ballot building server, correct?

4   A.   Correct.

5   Q.   How does the information get from the

6   ballot building computers that the ballot builders

7   use at their desk to the ballot building server?

8   A.   Those computers are directly connected

9   through a network line, a network connection. And

10   best way of example is that when they have a product

11   ready to save to the server, they are saving that

12   document to a folder that's residing on the server.

13   Q.   Okay. So they are networked to each other.

14   A.   Correct.

15   Q.   Okay. And then when the ballots are ready

16   to then be -- the proofs to be generated and sent to

17   the counties for review --

18   A.   Uh-huh.

19   Q.   -- how are those files, how is that

20   information transmitted to the counties?

21   A.   Right.

22   Q.   What's that process?

23   A.   Right. The -- I'll say terminal, the CPU

24   that's connected through the network to the ballot

25   building server, it -- the data file that's on the

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1   server is loaded to the terminal unit. The CPU. So

2   you have to load the data, get back into the server.

3   Not the server. Into the personal computer, the CPU.

4   Then the pdfs are generated. The pdfs are

5   then saved to a folder on the server. Then we have

6   one USB drive that I hold onto that. And it's

7   reformatted every time that we use it. The pdfs are

8   copied from the folder on the server and saved to the

9   USB drive that is plugged into the CPU unit.

10   And then the jump drive is removed. It's

11   locked. It's actually got a locking mechanism on it.

12   And it's taken to a separate computer, a -- our SOS

13   public computer. Where I then access the SOS FTP

14   folder locations for the counties and then I cut the

15   file from the USB drive and post it to the SOS FTP

16   location.

17   Q.   Okay. So the CPU that you are referring

18   to, that's the ballot building server?

19   A.   No.

20   Q.   That's the personal computer?

21   A.   That's the personal computer.

22   Q.   Okay. And then same question with respect

23   to how the CD gets generated.

24   A.   Uh-huh.

25   Q.   What's the process for that? How, how does

Page 145

1   the information get loaded onto the CD?

2   A.   Same thing is that the file is copied from

3   the server, and then it is placed onto a CD through a

4   CD burning program that's housed on the individual

5   CPU.

6   Q.   Okay.

7   A.   We don't have -- we don't have an ability

8   to actually plug directly into ballot builder. It's

9   in a locked cage, we can't get to it.

10   Q.   Okay. So when the data is loaded from the

11   CPU to the server, that's all done through the

12   network connection between them?

13   A.   Uh-huh.

14   Q.   Okay. Got it. Thank you.

15   Okay. You talked about the returns being

16   certified and the county bringing their physical

17   returns back to the Secretary of State's office. And

18   then the State will certify those returns if it's a

19   state-wide election.

20   A.   Uh-huh.

21   Q.   And then a physical record is placed in a

22   sealed envelope and handed to the -- hand-delivered

23   to the Secretary of State's office?

24   A.   Uh-huh, uh-huh.

25   Q.   What is the physical record that you are

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1   talking about?

2   A.   The physical record that the counties -- I

3   will answer this to the best of my knowledge, because

4   it's the counties that are executing this task. I

5   just have knowledge of what they are doing.

6   But the county election officials will

7   gather the materials that they are required to gather

8   under statute, which are the certification form.

9   There's a form that the county fills out and says,

10   These are the returns for our election. And here's

11   the races and here are the vote totals and then it's

12   signed off by the election superintendent. If it's a

13   board, it's the board itself. If it is the probate

14   judge, it's the probate judge in that locale.

15   So it's those -- it's that paperwork.

16   There are specific reports that are generated from

17   the GEMS server, the statement of votes cast report,

18   which is a precinct-by-precinct breakdown of all

19   races contained within the reelection. There is also

20   an election summary report which is the grand total

21   of votes for each individual race contested within

22   that election.

23   I believe they also send back copies of the

24   precinct recap sheets. Those are forms in

25   triplicate. So one of those triplicate forms is

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1   included with the official hard copy returns. And

2   then a copy of the GEMS database is burned to CD and

3   also forwarded back to the Secretary of State's

4   office.

5   Q.   Okay. And do you have an understanding of

6   the process by which the copy of the GEMS database is

7   burned to the CD?

8   A.   It's the same process. There is a -- a CD

9   burning program on, on the GEMS computer at the

10   county level. They put a blank CD into that device.

11   They open up that program and then they copy the

12   database from their -- from their backup location on

13   the server, place that copy there in the burn file

14   and then create, burn the CD.

15   Q.   Is there any kind of special CD that's used

16   or any -- you know, is everyone free to choose

17   whatever CDs they have available for this process?

18   A.   Yes, the county can, the county can use

19   whatever reads -- you know, writable CD they have.

20   Q.   You mentioned earlier that the ballot

21   builder server, the ballot builder computer, that

22   there was a backup of it. Do you recall that?

23   A.   I do recall that. Where we would

24   periodically make backups of our servers so that we

25   would not lose data. If lightning struck and hit the

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1   operational server, we would have a backup. And our

2   IT group did that backup. How they made that backup

3   and what way they kept that backup, where they kept

4   that backup, I don't recall.

5   Q.   And is this a process that's still done

6   today?

7   A.   The SOS protocols are continually backing

8   up the devices they manage. Again, how SOS manages

9   that backup, you would have to ask their IT

10   department.

11   Q.   So you don't know if it's done by inserting

12   a memory card or loading it onto a CD or transmitting

13   it through the --

14   A.   I do not know how they do their -- their

15   redundant backup process.

16   Q.   And you mentioned earlier -- and this was

17   back in the 2016 time frame -- the access to the room

18   where the ballot building computer was. And I

19   believe you mentioned four people had access.

20   Yourself, Stacy Jackson, Merrill King and Steven

21   Dean. Is that correct?

22   A.   Uh-huh, uh-huh.

23   Q.   No one else had access to that room?

24   A.   I believe that those were the only four

25   people that had card -- it was all card key-accessed.

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1   So in order to get into that room, in order to get to

2   that room you first had to have card key access into

3   the Center itself. And then everybody that had card

4   key access to the Center itself didn't have card key

5   access to the server room.

6   So there was another magnetic card swipe to

7   get into the server room. In my recollection, it was

8   just myself, Mr. King, Mr. Dean and Miss Jackson.

9   That's my recollection.

10   Q.   So when the ballot builders would need to

11   key in information to the computer, they did that on

12   their own stations?

13   A.   Yes.

14   Q.   And not to the ballot building server?

15   A.   That's correct.

16   Q.   The way it got to the ballot building

17   server was just through the network?

18   A.   Uh-huh.

19   Q.   And did any janitorial staff have a key

20   card to that room?

21   A.   Not to that server room, no.

22   Q.   So was it really dirty?

23   A.   It was not a very big room, so it was -- it

24   wasn't the cleanest room in the office. But it was

25   well-kept.

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1   Q.   Did that fall to you?

2   A.   I -- I tried to make sure that the IT staff

3   were making sure that their work areas were

4   well-kept.

5   Q.   So were there -- besides the four people we

6   have discussed, did additional IT staff have access

7   to that room?

8   A.   My recollection is that it was myself,

9   Mr. Dean, Mr. King and Miss Jackson.

10   Q.   Okay. And then you said that for that

11   computer, everything was user name and

12   password-protected, correct?

13   A.   Correct.

14   Q.   Do you know how the passwords were

15   generated?

16   A.   I do not recall.

17   Q.   Do you recall how often they were required

18   to be changed?

19   A.   I do not.

20   Q.   The CDs that were sent to the counties --

21   A.   Uh-huh.

22   Q.   -- they were encrypted as well?

23   A.   Yes.

24   Q.   Do you recall the process by which that was

25   encrypted?

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1   A.   It was a password-protected zip folder.

2   Q.   Do you know what method of encryption was

3   used?

4   A.   I do not.

5   Q.   Do you know how the passwords were

6   generated?

7   A.   Randomly. We, we actually set up a

8   spreadsheet at the time that would randomly generate

9   the passwords that would be assigned to the CDs.

10   Q.   And so did that spreadsheet store the

11   passwords?

12   A.   My recollection at the time is that it

13   would produce -- we would print it out, we would have

14   it available to us so that when we were burning the

15   CDs, we knew what the password was that would go to

16   that CD.

17   Q.   And who would have access to that

18   printed-out spreadsheet?

19   A.   And here's where I may be getting confused

20   in my own memory of KSU and SOS.

21   Q.   Sure.

22   A.   The passwords that we placed within the CD,

23   the SOS-generated passwords, are on the folders

24   themselves that we would, that we generate to track

25   the work that we have done for that operation. So my

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1   recollection is that's where the password was. We

2   had a database tracking system that we were saying,

3   Okay, we are creating this record for this county,

4   for this election and it would generate a label.

5   At the time that label was generated, it

6   would generate a random number in places, this would

7   be the password associated to the zip file.

8   Q.   And so that generation process, that was a

9   software that was on the computer that you used that

10   would randomly generate this?

11   A.   That was on another device -- on another

12   device, not on the ballot building device. It was on

13   different device.

14   Q.   Which device was that on?

15   A.   The, the election tracking process is -- is

16   maintained -- the -- that election -- it was -- it

17   would be maintained on ballot builder.

18   Q.   The ballot builder PCs that the ballot

19   builders would use.

20   A.   The access to the -- like, again, the file

21   is stored -- the file is saved to that server, but

22   the program to access the file is on the CPU.

23   Q.   Okay. And the name of the program? If you

24   recall?

25   A.   I think it's just CES database tracker.

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1   Q.   And is this process currently used at the

2   SOS's office?

3   A.   Yes, yes.

4   Q.   And so I know you said that you would print

5   out the spreadsheet with the passwords. Do you have

6   any recollection of then deleting the file that had

7   the passwords or somehow disposing of that on

8   computer?

9   A.   I do not recall.

10   Q.   So it's possible that it's saved.

11   A.   Yes, yes.

12   Q.   But you don't know one way or the another.

13   A.   I just do not know.

14   Q.   Understood. Okay.

15   When we were talking about the files that

16   Logan Lamb was able to access, and you mentioned that

17   you were surprised that certain PII was available to

18   him because it wasn't within 10 days of an election;

19   do you recall that discussion?

20   A.   Uh-huh.

21   Q.   What happens to files containing PII from

22   prior election?

23   A.   The protocol that was in place and should

24   have been followed was that once a data file was

25   posted at the conclusion of that election, that all

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1   those folders would have then been emptied where the

2   folder resides. The data file would be retained.

3   The data file is on the Epic server. It's on other

4   components. But the web server would be cleared of

5   information within those county folders.

6   That is the protocol that should have been

7   followed.

8   Q.   So it's your assumption that that protocol

9   wasn't followed and that's how Mr. Lamb was able to

10   access that information?

11   A.   What the protocol was is the data was

12   supposed to be removed once the election concluded,

13   once there wasn't any need for the county to have

14   access to that data set. And if the data is there,

15   that means that there was a failure in doing the job.

16   Q.   What -- what is all of the information --

17   and we have touched on some of it -- what is the

18   universe of information that is intended to be, or at

19   least back in the 2016 time frame, was intended to be

20   available on the web server?

21   A.   The web server without county privileges,

22   user name, password was very limited in scope. It

23   basically gave information about where the Center

24   was, who we were, what our mission statement was. It

25   was a tool to communicate information to

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1 individual -- to counties. So information on

2 training. We had presentations, PowerPoint

3 presentations that were there that counties might use

4 to educate their board members on how elections are

5 operated within the State of Georgia. Things that

6 were sent for training purposes is what was available

7 to the counties.

8   And as we would get closer to an election,

9 then we would start posting ballot proofs, reports,

10 ballot database reports for counties to easily pull

11 down access, review sign-off sheet. They would pull

12 down, print out locally and then fax back to the

13 Center to validate that they had reviewed their

14 ballot packet and that it was found correct. Or if

15 there was mistakes, to notify us of mistakes.

16   There was a reporting, a way for counties

17 to communicate back to CES about any issues that may

18 have -- they may have encountered. Touch screen not

19 turning on or something of that nature during

20 election use. So that information was like a report.

21 Like, you know, this, this polling location had this

22 issue. So that was the way we would gather

23 information from the counties on election, at

24 election time.

25   And that was the use of the website. It

1   was a distribution point of getting data to counties

2   to help them execute their election.

3   Q.   And the counties all had user names and

4   passwords by which they would access their

5   county-specific information.

6   A.   Yes. Yes. Yes.

7   Q.   Do you know how those user names and

8   passwords were generated?

9   A.   I do not recall how they were generated.

10   Q.   Do you recall how often they were required

11   to be changed?

12   A.   I do not.

13   Q.   Do you recall the process by which a new

14   user name and/or password might be generated in the

15   instance, for example, that a county employee retired

16   and a new county employee filled that roll?

17   A.   I do not recall.

18   Q.   You were talking about the secure FTP

19   process that's used now at the Secretary of State's

20   office. Do you recall that discussion?

21   A.   Uh-huh.

22   Q.   And you said there's an extent to which you

23   rely on the Secretary of State IT department for your

24   assurances that it's secure.

25   A.   Uh-huh.

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1   Q.   Who are the people on whom you rely for

2   those assurances related to the security of the

3   system?

4   A.   The CIO for the Secretary of State's office

5   is Merritt Beaver. So he is -- he's stop number one

6   with any IT concerns that anybody in the Secretary of

7   State's office has. Because we are not the only

8   users of that particular use. The elections division

9   in whole uses that tool to communicate back and forth

10   with counties in relation to elections operations.

11   But he would be my first, my first point of contact

12   within the IT operation.

13   Q.   Is there anyone else who you rely on for

14   those types of opinions?

15   A.   I always work through Merritt, so I have

16   tried to always work through the CIO so he is aware

17   with any concerns that my group may have.

18   Q.   What concerns does your group have at the

19   moment?

20   A.   We do not have any concerns currently.

21   Q.   What concerns have you expressed to

22   Mr. Beaver in the past?

23   A.   Just accessibility. They are constantly

24   working to make sure that their systems are secure.

25   And sometimes they will introduce some new

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1   components.

2   One example was with the FTP site just

3   recently, they did a security upgrade to the site.

4   And that security upgrade actually reset all the user

5   names and passwords unbeknownst to my department. So

6   we actually had put files out for counties to access

7   on the FTP and leading up to this most recent

8   election in June and they could not access the files.

9   They cannot sign in. They couldn't log into it.

10   So immediately we were like, why, why

11   can't, why is this denying them access in? And we

12   could not resolve the problem because we don't have

13   direct connection to the FTP configuration so that

14   had to be taken to Merritt to say, Hey, what

15   happened? Can you get these counties back in

16   connection with this device so that they can get the

17   data they need from us?

18   Q.   Do you recall how he responded to your

19   inquiries?

20   A.   They immediately began working to resolve

21   the situation. And within a couple of hours of us

22   notifying them, they had resolved what the issue was

23   and had gotten direct contact with the counties to

24   get them reconnected.

25   Q.   Do you recall if the counties were given

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1   new passwords or if their existing passwords were

2   resolved?

3   A.   I believe they had to completely rebuild

4   the FTP connection, so it would be a new connection

5   into the FTP, meaning new user name or new password.

6   Q.   Do you recall any details of what that

7   entailed?

8   A.   That, I do not. That's a question for SOS

9   IT.

10   Q.   If you know, what was the security update

11 that was installed?

12   A.   That's -- that's a question that you would

13 have to ask SOS IT.

14   Q.   So you don't know?

15   A.   They manage all of that stuff. I let them

16 do their job.

17   Q.   Do you know anything about why a security

18 update was initiated?

19   A.   You would have to ask SOS IT that.

20   Q.   So that's not information that you have.

21   A.   It's not information that I have.

22   Q.   You talked about, in the March 2017 time

23 frame, your immediate concern being just resolving

24 the vulnerabilities that were detected. Do you

25 recall that?

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 1         A.    In the March '17, is that when that

 2    escalated was immediately -- you know what, we have a

 3    problem that must be resolved?

 4         Q.    Once the problem was resolved, do you

 5    recall participating in any conversations where there

 6    was a discussion about investigating the cause of

 7    those vulnerabilities?

 8         A.    No.

 9         Q.    Do you recall participating in any

10    discussions regarding any potential effort to

11    determine the extent of those vulnerabilities?

12         A.    I do not.

13         Q.    Do you recall participating in any

14    discussions to determine whether there was any

15    additional unauthorized access to the system?

16         A.    I do not.

17         Q.    Okay.  So you talked about the Epic server

18    and how there was an Epic server back at KSU and

19    there's a new Epic server at the Secretary of State's

20    office now.

21         A.    Yes, yes.

22         Q.    And the hardware is different, correct?

23         A.    Correct.

24         Q.    And you said the new Epic server is using

25    the same program that the KSU server was using.
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1   A.   The same version of Epic, yes.

2   Q.   Do you recall how the program -- well,

3   stepping back, what is that program?

4   A.   It's -- it's literally called Epic. That's

5   the name of the program. That stands for Express

6   Poll Integrated Central Server. Long name for --

7   Q.   That's why we shorten it to Epic?

8   A.   Exactly.

9   Q.   Was it a brand-new installation of software

10   that was installed on the SOS server or was it

11   migrated somehow or do you not know?

12   A.   I do not know.

13   Q.   And same question with respect to the

14   ballot building server.

15   A.   Uh-huh.

16   Q.   Because it's running the same program as it

17   was at KSU, correct?

18   A.   Right. Again, I don't know what steps SOS

19   IT took to get all of that stuff operational.

20   Q.   Understood.

21   In your discussion of detecting malware,

22   you talked about a process for looking for the same

23   hash signature. Do you recall that discussion?

24   A.   Uh-huh, I do. I do.

25   Q.   That process validating the hash signature,

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1   is that the entire scope of the process that the

2   Secretary of State's office engages in to confirm

3   that no malware was installed on the GEMS executable

4   in the system?

5   A.   The inspections that are done on a GEMS

6   computer locally whenever, whenever we do what we

7   classify as an acceptance test on a GEMS server first

8   off starts with the GEMS-verified process. To first

9   run the hash compare on, on the local computer at the

10   county level to first validate that what's been --

11   what's installed from an executable standpoint is

12   equal to what should be there.

13   Once that process is performed, we then

14   load an election database that we bring with us to

15   the system and produce memory cards for DREs, memory

16   cards for optical scan and we perform basically a

17   small little election. Where we create, we have a

18   test stack of ballots that we put through a scanner

19   to validate that the GEMS computer will create

20   information to a memory card, optical scan memory

21   card, that will recognize our test deck and that the

22   scanner will interpret our test deck properly and

23   then report that information back to the server

24   properly.

25   We also create touch screen memory cards

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1   with a specific ballot on there, place them into DREs

2   locally at the county and go through a test to

3   validate that they are showing the information as

4   they should. That they are calculating votes placed

5   into them as they should and reporting that

6   information back to the server itself. And then we

7   have the server tabulate all that information to

8   confirm that it is calculating all the input that is

9   being placed into it.

10   Once that process is completed, the last

11   thing we do is run GEMS verify again to validate

12   again that the operations we did, did not alter the

13   executable in any way, shape or form to validate

14   again that the system is showing zero mismatches at

15   the time that we leave.

16   Q.   Are there any other components to this

17   process or any other processes that the Secretary of

18   State's office engages in to confirm that no malware

19   is installed?

20   A.   That is what we do.

21   Q.   Is it your understanding that the hash

22   signature compare process is sufficient to confirm

23   that malware isn't installed?

24   A.   My understanding of a hash process is that

25   it takes a file and it creates a numerical value

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1   based upon all of the zeros and ones, all of the bits

2   within the program. And that if there's any

3   alteration into the program and how it operates, it

4   would alter the zeros and ones within the program and

5   thus create a different hash value when calculated.

6   Q.   So does that mean yes?

7   A.   The hash process would show that there's a

8   difference between the baseline standard, what it

9   should be, and if it calculates a different value,

10 then that's saying it's not equal to what it should

11 be.

12   Q.   So if there's any malware installed, then

13 the hash process will reveal that the executable is

14 not what it should be?

15   A.   If -- my understanding being if the malware

16 has attacked, has attacked the executable to make it

17 do something other than what it was originally

18 written and compiled to do, then, yes, that would

19 come back with a mismatch signature.

20   Q.   Okay. We are going to shift gears a little

21 bit.

22   So I understand that your main role isn't

23 IT. You are not the IT guy.

24   A.   Uh-huh.

25   Q.   Merritt Beaver is the CIO, correct?

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1   A.   Correct.

2   Q.   But I would like to understand the scope of

3   your responsibility related to safeguarding the

4   election, the election system.

5   A.   Uh-huh.

6   Q.   And what decisions you make that affect

7   cybersecurity.

8   A.   Uh-huh.

9   Q.   So, for example, what is your role in

10   choosing any software used in the SOS office?

11   A.   I do not have a role in selecting software

12   used within the SOS office. The SOS IT operation

13   controls the software that is available to us as

14   employees at the Secretary of State's office.

15   So if I have a specific need, then I don't

16   even give them suggestions on software. I say, I

17   need something that can do this. Can you provide me

18   some sort of resource? And then it is -- we actually

19   put it into a ticketing system, a request to SOS IT

20   for, you know, some need.

21   Q.   What types of -- what needs have you

22   expressed in the past if you can recall?

23   A.   The most recent need or want that I

24   expressed to SOS IT was a way to graphically update

25   people within the Secretary of State's office on our

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1   ballot building process. That they can see what

2   counties are in the build queue, what counties have

3   already been built and they are awaiting sign-off.

4   So something much that nature that could be used to

5   give a graphical, basically, a picture of Georgia and

6   see here are all the counties that are engaged in

7   this election and here's where they stand.

8   Q.   Was that intended to be used just

9   internally in the SOS office --

10   A.   Yes.

11   Q.   -- or communicated to the counties as well?

12   A.   That would be used as an internal

13   notification within the office.

14   Q.   And do you have this functionality now?

15   A.   We actually, working with IT, we determined

16   that actually it's a process that you can use Excel

17   for. And Excel actually has a mapping feature in it

18   where you can take information in Excel spreadsheet

19   and actually turn it into a visual.

20   Q.   Excel does so many things.

21   So do you know what steps are taken, if

22   any, to determine that software is secure before it

23   is installed?

24   A.   That is a question to ask SOS IT.

25   Q.   Same question with respect to installing

Page 167

1   software updates.

2   A.   Again, that's a question to ask SOS IT.

3   Q.   Same question with respect to security

4   patches.

5   A.   That's again SOS IT.

6   Q.   Do you have any role in designing security

7   protocols or procedures?

8   A.   For what?

9   Q.   Anything.

10   A.   The only role I have is working with the

11   elections division and reviewing the directions that

12   the election division may put together in response to

13   SEB, SEB rules for tasks that counties are required

14   to perform.

15   So, you know, whatever the SEB has

16   delineated as this is a requirement of the county,

17   then based upon, you know, how the equipment may

18   operate within the elections environment, we, you

19   know, outline or help the election division figure

20   out, you know, what's -- how do we phrase this on the

21   paperwork so that the poll worker or the election

22   official knows what to get from the GEMS system or

23   from a DRE.

24   Q.   Can you give me an example?

25   A.   Example would be precinct recap sheet that

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1 you see. Is public count, where is that, that's

2 public count is the counter that's going from zero to

3 whatever the end point is for that given election.

4 You know, the -- what should be placed on the touch

5 screens, a seal -- you know, a seal that designates

6 that it was sealed prior to the beginning of the

7 election or sealed post-election.

8   Situations like that. Helping develop the

9 paperwork that the poll workers may be using on

10 election day or election night or during advanced

11 voting.

12   Q.   You described a process earlier about

13 testing, like the logic and accuracy testing.

14   A.   Uh-huh, uh-huh.

15   Q.   What is your role in overseeing that

16 testing or being -- what is your role in that testing

17 at all?

18   A.   Our group helped develop the logic and

19 accuracy procedures that counties use. The steps

20 that they follow in getting equipment prepared.

21 Basically how to create the memory cards, how to do

22 your diagnostic tests on the DREs, how do you make

23 sure the clock is set properly. How do you make sure

24 the paper is fed into the roll properly. How do you

25 transition from pre-election to election mode, from

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1   election mode to post-election mode, things of that

2   nature.

3   Q.   Are you aware of any current threats to the

4   Georgia election system that need to be protected

5   against?

6   A.   I think we constantly work to protect the

7   Georgia election system from any and all threats. Is

8   that every election is an exercise. And that we

9   follow the rules as outlined by the Secretary of

10   State, as by the State Election Board, and through

11   the code to make sure that the equipment is ready for

12   election use, that it's used properly by voters, by

13   the poll workers and that everything is accounted for

14   at the end of the day.

15   So we are constantly working to make sure

16   that we have as tight a ship operationally as we can.

17   Q.   Are there any specific threats of which you

18   are currently aware?

19   A.   Any specific threats made to the Secretary

20   of State or to --

21   Q.   Throughout -- to the -- to the Georgia

22   voting system generally, to the safety and security

23   of --

24   A.   I can't speak to any direct threat that I

25   have been made aware of that changes how we make sure

Page 170

1   the system is functioning as it should.

2   Q.   Are you aware of any threats that have not

3   changed the way you are working to make sure the

4   system is functioning?

5   A.   I am not.

6   Q.   Have you read the Mueller report?

7   A.   I have not read the Mueller report.

8   Q.   Why not?

9   A.   I have just chosen not to read the Mueller

10 report. I just am not really following all the

11 national, you know, conversation in relation to the

12 Mueller report.

13   Q.   Have you read the indictment in the case

14 United States versus -- I'm going to definitely botch

15 this pronunciation, Natyksho, N-a-t-y-k-s-h-o, filed

16 in the District of the District of Columbia last

17 year.

18   A.   I have not.

19   (Plaintiffs' Exhibit 29, USA vs. Netyksho,

20   et al. Indictment, marked for identification.)

21   Q.   (By Ms. Bentrott) I would like to hand you

22 that indictment which I will mark as Exhibit 29.

23 Feel free to peruse the whole thing if you like. But

24 I will direct you to a specific paragraph. You can

25 tell me whenever you are ready.

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1   On page 26, paragraph 75, and the second

2   sentence in this paragraph reads: For example, on or

3   about October 28th, 2016, Kovalev and his

4   co-conspirators visited the websites of certain

5   counties in Georgia, Iowa and Florida to identify

6   vulnerabilities.

7   Do you see that?

8   A.   I do.

9   Q.   You had not read this before?

10   A.   I had not.

11   Q.   Were you aware of this fact prior to our

12 discussion right now?

13   A.   I believe I have heard conversation within

14 the elections division pertaining to this.

15   Q.   What can you tell me about those

16 conversations?

17   A.   I can just say that I have heard the

18 elections director and members of the general counsel

19 for the Secretary of State's office mentioning this.

20   Q.   Do you recall any other details?

21   A.   I do not.

22   Q.   Does this information -- has this

23 information affected the Secretary of State's

24 office's plans or protocols with respect to election?

25   A.   It has not changed the operations of my

Page 172

1   division within the Secretary of State's office. Has

2   it changed other aspects within the election

3   division? You would have to ask other people.

4   Q.   You are not aware of any changes within the

5   elections division?

6   A.   I do not know what they have or have not

7   done in response.

8   Q.   What investigation has been undertaken, if

9   any at all, regarding possible election interference

10   in Georgia?

11   A.   That would be a question to ask of the

12   elections director and the chief investigator for the

13   Secretary of State's office. I do not know.

14   Q.   What are their names?

15   A.   Chris Harvey is the elections director and

16   Russell Lewis is the chief investigator.

17   Q.   You are not aware of any such

18   investigation?

19   A.   I am not.

20   Q.   Have you read the findings and

21   recommendations of the Senate Intelligence Committee

22   regarding election security from last year?

23   A.   I have not.

24   Q.   I would like to hand you, fortunately, just

25   a summary of those findings, not the entire thing, we

Page 173

1   don't have all day. I will mark this as Exhibit 30.

2   (Plaintiffs' Exhibit 30, Russian Targeting

3   of Election Infrastructure During the 2016

4   Election: Summary of Initial Findings and

5   Recommendations, May 8, 2018, marked for

6   identification.)

7   Q   (By Ms. Bentrott) And feel free to read the

8   whole thing. I'm particularly interested in the

9   summary of initial findings on the first page.

10   A.   Okay.

11   Q.   And you said you haven't read this document

12   before, correct?

13   A.   That's correct.

14   Q.   And you can see in the first sub-bullet

15   under the summary of initial findings, it says: At

16   least 18 states had election systems targeted by

17   Russian-affiliated cyberactors in some fashion.

18   Do you see that?

19   A.   I do.

20   Q.   Were you aware of this finding?

21   A.   Again, I have heard this through general

22   conversation within the elections division.

23   Q.   What can you tell me about those

24   conversations?

25   A.   That I have heard that they were talking

Page 174

1   about election findings of this nature.

2   Q.   Nothing further?

3   A.   To what extent -- no.

4   Q.   Do you recall feeling a sense of concern?

5   A.   My concern in the time frames of elections

6   is about getting the databases built and getting the

7   ballots produced. During election years, my blinders

8   are on in getting the ballots constructed and getting

9   ready for Election Day.

10   Q.   And you can see the second bullet says:

11   Almost all of the states that were targeted observed

12   vulnerability scanning directed at their Secretary of

13   State websites or voter registration infrastructure.

14   Do you see that?

15   A.   I do.

16   Q.   Were you aware of this finding?

17   A.   That finding, I do not know.

18   Q.   And neither of these findings have changed

19   your operations in any way; is that correct?

20   A.   That is correct.

21   Q.   Do you receive classified threat briefings

22   from the Department of Homeland Security?

23   A.   I do not receive them.

24   Q.   Do you receive classified threat briefings

25   from any federal agency?

Page 175

1   A.   I do not.

2   Q.   Other than Merritt Beaver, are there any

3   other individuals you can identify who are

4   responsible for the cybersecurity of Georgia's voting

5   system? At least at the state-wide level.

6   A.   Right. I mean, Merritt Beaver is the CIO.

7   And the elections director for the State of Georgia

8   is Chris Harvey. And then finally the secretary of

9   state is the official director of elections for the

10   state. So ...

11   Q.   Are there other individuals who you would

12   identify that are responsible for the physical

13   security of the system as opposed to the

14   cybersecurity?

15   A.   The counties themselves are responsible for

16   the voting equipment that -- that the voters

17   themselves touch. They are under governmental

18   agreement with the Secretary of State's office to

19   maintain and secure the voting equipment that's used

20   by voters on Election Day.

21   So the direct access to the equipment that

22   a voter would interact with is under the county

23   purview and county supervision.

24   Q.   What is included among that equipment

25   besides the DRE machines themselves?

Page 176

1   A.   The GEMS computer at the county level. The

2   optical scan units that are used. The Express Poll

3   devices that are used. The DRE equipment that is

4   used. Anything that the county uses to execute the

5   election, their paperwork, their signs, their forms,

6   so much of that stuff. All of that stuff is

7   something that the county protects and holds onto.

8   Q.   But to clarify, of that list, is there

9   anything that the -- that voters actually use and

10   interact with on Election Day other than the DRE

11   machines?

12   A.   The voter touches the DRE machine. The

13   voter touches a voter access card. The voter doesn't

14   touch Express Poll. A poll worker touches Express

15   Poll. So the two items that a voter touches directly

16   are the voter access card and a DRE machine.

17   Q.   What is the physical infrastructure that

18   the Secretary of State's office is responsible for at

19   any point in the chain of in the election?

20   A.   We maintain the system that creates the

21   database that's used at the county level for

22   elections operations. That is a statutory

23   requirement under the code that we construct the

24   database for use of federal, state, and county

25   elections.

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1   We also construct the data set that's used

2   for Express Poll to populate their ePoll books.

3   So -- but from a physical device unit, that is all

4   maintained locally at the county level.

5   Q.   What about the memory cards that are used?

6   A.   My apologies.

7   The Express Poll compact flash cards, we do

8   retain those post-election and hold onto those in

9   election, hold onto them between election. So we put

10   the data file on them. Then they are in the county

11   hands through the handoff. Then after the election,

12   another handoff takes place and those memory cards

13   come back to the Secretary of State's office where

14   they are held.

15   Q.   How do those handoffs take place?

16   A.   Through SOS investigators.

17   Q.   Do you recall any of their names?

18   A.   I don't know all of their names, but they

19   are all employees at the Secretary of State's office

20   and carry a badge.

21   Q.   And when -- when they are stored at the

22   Secretary of State's office, what can you tell me

23   about how they are stored?

24   A.   They are stored under lock and key. The

25   bag itself is -- with the cards in it still remain

Page 178

1   locked and the room in which the cards stay is all

2   card key-accessed.

3   Q.   Do you know how many people have access to

4   that room?

5   A.   There's myself. Let's see, myself. Five

6   total people.

7   Q.   Does that include any custodial staff that

8   may or may not have access to that?

9   A.   No. No, it does not.

10   Q.   Does custodial staff have access to --

11   A.   Custodial staff can only get into the

12   building if we let them in the building and they

13   cannot get into that room because we don't let them

14   in that room.

15   Q.   Another dirty room?

16   A.   That room has got a lot more -- yes, that

17   one is dirtier than the regular parts of the office.

18   Q.   Understood.

19   Are there any other physical parts of the

20   system that the Secretary of State's office is

21   responsible for at any point in the chain?

22   A.   I cannot think of any others that I have

23   not mentioned.

24   Q.   If any hardware is broken and in need of

25   repair, who is responsible for conducting those

Page 179

1 repairs?

2   A.   If a touch screen unit does -- does not

3 work, then the county sends that equipment back in to

4 repair to the vendor and the vendor does a repair of

5 the equipment. And then after the repair work is

6 done by the vendor, that equipment is shipped to the

7 Secretary of State's office for acceptance testing.

8   And that is where it is confirmed that not

9 only is it operational, but that the right software

10 versions are installed on the devices that are

11 certified for use within the State.

12   Once that certification testing is

13 completed, then the equipment is then returned to the

14 county for the county to then reintroduce into

15 their -- into their inventory and supply.

16   Q.   And so in such a instance, the Secretary of

17 State's office would have possession, control of, for

18 example, a DRE machine that would be going back to

19 the county for use at some point.

20   A.   Correct. For a, for a short period of

21 time, yes.

22   Q.   About how much time?

23   A.   We try to -- whenever we have equipment

24 delivered, have it delivered one day and have it

25 ready for shipping to the county by the next day. So

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1   then 24, 48 hours, it's ready to go back to the

2   county.

3   Q.   Is it stored -- where is it stored?

4   A.   Stored in a -- stored within our office

5   which again is all card key-accessed. It's stored --

6   records are kept that it's come in, serial numbers, a

7   record of when we last touched it, for what reason.

8   All of that is stored within our system. And then

9   also the physical units stored again in card key

10   access rooms.

11   Q.   And same access for this --

12   A.   Yes, and there's also cameras in the

13   building that -- and everything has got security

14   access points and such.

15   Q.   And to do such testing, would you also --

16   would you need memory cards or voter access cards or

17   other sort of removal of media?

18   A.   Yes, yes.

19   Q.   Is that removable media, would that come

20   with the machine and be delivered by the vendor or is

21   that --

22   A.   That stays within the Center for Election

23   Systems as used saying that this has -- the database

24   that we need for the operational use that we need for

25   stays there controlled within that center.

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1   Q.   So, in general, on an ongoing basis, the

2   Secretary of State's office does possess some amount

3   of voter access cards and memory, DRE memory cards

4   and things of that nature.

5   A.   Uh-huh, yes. We do.

6   Q.   Can you estimate sort of the -- well, let's

7   step back.

8   What is the full scope of those types of

9   devices that the Secretary of State's office has

10   regularly in its possessions?

11   A.   The devices that accounting need to execute

12   an election are devices that Secretary of State has

13   in order to do testing on the same said equipment.

14   Q.   I see. So you have everything that the

15   counties have.

16   A.   Uh-huh.

17   Q.   Just in some smaller amount.

18   A.   That is correct.

19   Q.   For the purpose of testing.

20   A.   That is correct.

21   Q.   And is that all stored in the same room

22   as -- that you described the Express Poll flash cards

23   being stored in?

24   A.   It is stored in a different room, but card

25   key-accessed.

Page 182

1   Q.   And same access to that room?

2   A.   Uh-huh, same.

3   Q.   What can you tell me about access of the

4   vendor to DRE machines, for example? Who has access

5   when a machine is out at a vendor, say, for example,

6   for repairs?

7   A.   That -- the vendor has a particular

8   operations setup for receipt of equipment, who comes

9   in contact with equipment. That's all documented and

10   notated within their recording structure.

11   And then when we get a unit returned from

12   repair, we get a sheet that says, here's who touched

13   the equipment, here was the operation that was

14   reported by the county, here is the repair work that

15   was done by the technician locally by the vendor.

16   We hold that, and we actually return that

17   paperwork back to the county because it's the county

18   that's possessing the equipment in the end run. So

19   we see the -- we see the paperwork, we don't keep the

20   paperwork, we forward it on to the county.

21   Q.   You read my mind with that question. Since

22   you don't copy the paperwork --

23   A.   That's correct.

24   Q.   -- you have no record at the SOS office.

25   A.   Right. We keep a record electronically

Page 183

1   that says the equipment was turned in this day, it

2   was tested on the this day and whether it either

3   passed or failed.

4   If it failed, we do create a record copy

5   that says it failed. We also keep a record copy that

6   it passed that indicates that we tested on a certain

7   day, that it passed, and it has a tape that prints

8   out from the device showing what we did.

9   Q.   Under what other instances does the vendor

10   have access to the voting machines?

11   A.   If a local jurisdictions contracts with a

12   vendor for support in preparing the equipment for --

13   during logic and actually testing prior to election.

14   That would be an opportunity for the vendor to have

15   access to the equipment which would be under the

16   supervision and guidance of the elections official.

17   Q.   Any other circumstances?

18   A.   On some jurisdiction's contract with the

19   vendor to have a member of the vendor onsite to

20   assist with election night. Operations, again, all

21   done through the supervision of the county election

22   official.

23   Q.   Any other circumstances?

24   A.   I can't think of any off the top of my

25   head.

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1   Q.   How is the equipment transported from the

2   vendor to the Secretary of State's office?

3   A.   It is shipped in multiple ways depending on

4   the number, sheer number. Sometimes it's shipped via

5   freight. Others, it's shipped via UPS.

6   Q.   I would like to talk about the different

7   removable media that interact with the voting system

8   generally.

9   A.   Okay.

10   Q.   So we have talked about a few different

11   types. I want to make sure I understand all the ways

12   they interact and I want to make sure I'm not missing

13   anything.

14   A.   Uh-huh.

15   Q.   So we talked about the CD that gets loaded

16   with the databases from the GEMS, from the

17   ballot-building computers.

18   A.   Uh-huh, uh-huh.

19   Q.   And that -- those CDs get transported to

20   the counties, correct?

21   A.   Uh-huh, correct.

22   Q.   And another one we talked about is the

23   write lock USB drive that you have used --

24   A.   Uh-huh.

25   Q.   -- to upload databases from the same

Page 185

1   system.

2   A.   No -- when we take databases from the

3   ballot-building environment and move them over to the

4   Epic environment for use there.

5   Q.   Okay. Are there any other removable media

6   that interact with the ballot building computers or

7   server?

8   A.   At the Center for Elections, at SOS?

9   Q.   Uh-huh, yes.

10   A.   Not that I can think of. Is that we --

11   with the ballot builder server we have that dedicated

12   jump drive that moves files for ballot building

13   purposes or for Epic purposes because everything

14   stays within the server in production of the CD.

15   But we do have to move it from -- and

16   actually we just move it from folder to folder within

17   the current system, in the shared system. Epic and

18   ballot building are sitting in the same configuration

19   that SOS put into place.

20   So the Epic server has, has access to the

21   folder structure for its needs. And the ballot

22   builder has the same access structure for the folder

23   structures. So only one USB drive is used in moving

24   data from the ballot building CPU, the pdf files, the

25   proof files, over to the public device for upload

Page 186

1 into the SOS FTP.

2   Q.   Okay.

3   A.   And then for Express Poll purposes, there's

4 a compact flash card that's used to take the data

5 generated by the Epic computer and that data is

6 copied to the compact flash card. That compact flash

7 card is reformatted prior to every insertion into the

8 system to make sure that that card is clean, it's not

9 containing anything.

10   Q.   What can you tell me about the reformatting

11 process?

12   A.   It's a process that's ran on a CPU is that

13 you isolated the drive, right click and say -- and

14 format and it goes through the process of formatting

15 the drive. And basically the way it was explained to

16 me a long time ago is that making sure all of the

17 zeros and ones are nothing but zero.

18   Q.   And is this a process that you do yourself?

19   A.   Yes.

20   Q.   Are there any other removable media that

21 you can think of that interact with either of those

22 two servers, the Epic server or the ballot building?

23   A.   I cannot.

24   Q.   No smartphones?

25   A.   No smartphones.

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1   Q.   They are never plugged in for charging?

2   A.   No, no.

3   Q.   Laptops?

4   A.   No.

5   Q.   Tablets?

6   A.   No.

7   Q.   And they are not -- are they entered and

8   equipped and just not enabled?

9   A.   They are -- that is a question to ask SOS

10   IT on how they have configured those servers in

11   respect to that.

12   Q.   And so you are not sure if they are

13   wifi-enabled?

14   A.   They are not wifi'd. I have no wifi. I

15   don't have any wifi in my office. Period.

16   Q.   Are you aware whether or not they have wifi

17   capability that --

18   A.   That would have to be a question to ask SOS

19   IT.

20   Q.   Are you aware of any remote access that the

21   vendor has to any part of the voting system?

22   A.   I am not aware of any remote access that

23   the vendor has.

24   Q.   You know, it just occurs to me that one

25   question that I didn't ask was in all the hardware

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1   that we were discussing, does the Secretary of

2   State's office also maintain optical scanners?

3   A.   We house some optical scanners again for

4   testing purposes, but -- and have held some optical

5   scanners in case of emergency that could be provided

6   to a county. I think currently we have two

7   operational optical scanners and that's it.

8   Q.   And what removable media interact with the

9   optical scanners?

10   A.   A -- it's a memory card.

11   Q.   Okay.

12   A.   It's a removable memory card.

13   Q.   And so you have access to those as well?

14   A.   Yes.

15   Q.   Is there any other removable media that

16   interact with the optical scanners?

17   A.   No.

18   MS. BENTROTT: Let's see, how long have we

19   been going?

20   THE VIDEOGRAPHER: About 56 minutes.

21   MS. BENTROTT: I'm going to change topics.

22   Do you want a break now, or should we press on?

23   Entirely up to you. And you can ask for a break

24   any time you want.

25   THE WITNESS: Let's press on for a little

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1   bit longer, but I may ask for a break in a

2   little bit.

3   MS. BENTROTT: Feel free to interrupt me.

4   As long as there's a not a question pending, we

5   can take a break at any time.

6   THE WITNESS: Understand. Understand.

7   Q   (By Ms. Bentrott) Are you aware of any

8   security breaches of the Georgia voting system?

9   A.   I am not.

10   Q.   Any lapse in security?

11   A.   I am not.

12   Q.   Any failures in security protocol?

13   A.   I am not.

14   Q.   And I'm not just speaking about current

15   ongoing issues, but any in the past.

16   A.   I am not.

17   Q.   Are you familiar with the circumstances

18   where Georgia voter access cards were listed for sale

19   on eBay?

20   A.   I seem to remember a time where one county

21   had actually sold a file cabinet and the recipient of

22   the file cabinet opened the file cabinet and found

23   some voter access cards present and then, I believe,

24   listed them on eBay for sale.

25   And when the Secretary of State's office

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1   found out about that, they, I believe, sent an

2   investigator to collect that property. And then I

3   believe the Secretary of State issued that that sale

4   of the voter access cards be brought back in to

5   Kennesaw and checked and validated and marked as

6   inspected before given back out to the counties for

7   use.

8   Q.   And so is there an inventory kept currently

9   that has -- that records how many voter access cards

10   are actually in existence?

11   A.   I do not have that. I know that initially

12   when the State purchased the equipment in 2002, that

13   part of that purchase agreement said that there would

14   be five voter access cards provided per device. But

15   since that time, counties have procured their own

16   voter access cards and we at CES at KSU and also

17   today have never tried to create an inventory list of

18   all the smart cards.

19   Q.   That sure is lucky that someone found that

20   posting on eBay, huh?

21   A.   It's -- it is what it is, I guess.

22   Q.   And so would you not describe this as a

23   failure in security protocol or a lapse in security?

24   A.   I would say that that was a county that

25   didn't check all the drawers in the cabinet before

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 1    they posted it on eBay.

 2         Q.    And does that not constitute a security

 3    lapse?

 4         A.    I would say that the county didn't check

 5    all the drawers and should have checked the drawers

 6    more thoroughly.

 7         Q.    So that does not a constitute a security

 8    lapse.   Is that what you are saying?

 9         A.    I would just continue to say the county did

10    not inspect the drawers enough to see what was in the

11    drawers before they sold the device.

12         Q.    Are you aware that this county was fined

13    for failure to protect their electronic voting

14    equipment?

15         A.    That's my recollection.

16         Q.    Are you aware of any other instances in

17    which a county was fined for failure to protect their

18    electronic voting equipment?

19         A.    I'm sure the record would show that there

20    are instances where the counties have been fined by

21    the State Election Board for not doing everything

22    that they are supposed to be doing under state

23    election board rule and protecting their voting

24    system.   Whether it's electronic or paper, counties

25    and jurisdictions are always being brought before the
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1   state election board to make sure that they are doing

2   what they should be doing.

3   Q.   Can you think of any other specific

4   instance where a county was fined for not protecting

5   their voting equipment?

6   A.   I can't think of a specific one because I

7   don't go to every state election board meeting and

8   listen in to all of those. But, you know, the record

9   would stand in the notes from the reports or notes

10   from the meetings on what the state election board

11   may have done in relation to various cases that they

12   see.

13   Q.   And so the state election board maintains

14   records of any such security incidents?

15   A.   They keep records of all their meetings and

16   their cases that they deal with, so all that's

17   maintained as part of the record.

18   Q.   Are you familiar with the vulnerabilities

19   that were reported on the eve of the November 2018

20   midterm elections?

21   A.   What -- what are you referencing?

22   Q.   Are you aware of any vulnerabilities in the

23   State's voting system that were discussed in advance

24   of the November 2018 midterm election?

25   A.   I do not recall.

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1   Q.   I would like to hand you what I will mark

2   as Exhibit 31.

3   (Plaintiffs' Exhibit 31, "Who, What, Why"

4   article titled "Kemp's Aggressive Gambit to

5   Distract from Election Security Crisis." ,

6   marked for identification.)

7   Q   (By Ms. Bentrott) For the record, this is a

8   "Who, What, Why" article titled "Kemp's Aggressive

9   Gambit to Distract from Election Security Crisis."

10   If you would like to take a minute to read the

11   article --

12   A.   Uh-huh.

13   Q.   -- so that we can discuss it, that would be

14   great.

15   A.   I'll do my best to answer your questions.

16   Q.   Sure thing.

17   And so were you previously aware that

18   multiple experts warned that with the particular

19   vulnerability that was reported in this article a

20   hacker could change voter's registration information?

21   A.   I was made aware of some activity, you

22   know, that was being looked at in relation to the

23   State's voter registration system on the weekend

24   prior to the election. But beyond that, I was not

25   privy to any of the other communications that may

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 1   have been ongoing with the Secretary of State's

 2   office at the time.

 3         Q.   Who made you aware of those activities?

 4         A.   I was, believe, made aware of those

 5   activities on Monday morning before the election that

 6   there had been e-mails between the elections director

 7   and others within the Secretary of State's office

 8   over the weekend.  But I was not privy to those

 9   e-mails.

10         Q.   Do you recall who told you this on Monday

11   morning?

12         A.   I honestly do not recall.

13         Q.   Do you recall whether it was an oral

14   conversation or whether you received this information

15   in writing?

16         A.   I -- I do not recall.

17         Q.   Do you recall discussing this any further

18   other than receiving this initial information?

19         A.   Right, I just don't recall.

20         Q.   You're aware that experts discovered that

21   through this vulnerability, files were available

22   including network configuration files.  Are you aware

23   of that?

24         A.   I am not.

25         Q.   Are you aware that one of the
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1   vulnerabilities identified meant that to view any

2   file that runs on the My Voter page, nothing more

3   would be needed than just typing the name of the file

4   into the web browser?

5   A.   I am unaware. I don't work with the My

6   Voter page, so I don't know.

7   Q.   Were you aware of a second vulnerability

8   described in the on-line voter registration system?

9   A.   I am not.

10   Q.   Is that a system that you work with?

11   A.   I do not work with the on-line voter

12   registration system.

13   Q.   When you were made aware of these

14   vulnerabilities on the Monday before the election,

15   did it give you any concerns about the security of

16   the election that was upcoming?

17   A.   It did -- it did not, you know, make me go,

18   you know, we have got to check something. There was

19   nothing that made me feel hesitant that the elector's

20   list that may have been produced or had been produced

21   had been -- you know, were not trusted. So there was

22   nothing that made me go, Wait, we have got to stop

23   something.

24   Q.   And in response to learning of these

25   security vulnerabilities, you undertook no action to

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1   check or verify the security of the system; is that

2   correct?

3   A.   At that point in time, everything was

4   already out in the counties' hands for use.

5   Everything in our program had been turned in to the

6   Express Polls. There was no other data going out at

7   that point in time. They were all physically in

8   place in their sealed components. That was -- it

9   was -- it was process that was complete from -- from

10   a process of production and preparation.

11   Q.   So the answer to my question is no, you

12   undertook no action after learning of the security

13   vulnerabilities prior to the election.

14   A.   Correct. Correct.

15   Q.   And to the extent that these

16   vulnerabilities indeed left the system open to

17   intrusion, there would have been nothing that could

18   have been done about it at that time.

19   A.   Based upon my knowledge of the situation

20   which was limited at this point, again, because not

21   being engaged with these discussions, I would say no.

22   Q.   I would like to hand you what's been marked

23   as Exhibit 32.

24   (Plaintiffs' Exhibit 32, Press release from

25   the Secretary of State's office entitled, After

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1   Failed Hacking Attempt SOS Launches

2   Investigation into Georgia Democratic Party,

3   marked for identification.)

4   Q   (By Ms. Bentrott) And this is, I believe, a

5   press release from the Secretary of State's office

6   that's titled "After Failed Hacking Attempt SOS

7   Launches Investigation into Georgia Democratic

8   Party." Do you see that?

9   A.   I do.

10   Q.   Do you agree that the Democratic party

11   attempted to hack the State's voter registration as

12   stated in this press release from the Secretary of

13   State's office?

14   A.   I don't know what happened in that

15   situation because, again, I was not privy to any of

16   the discussions that were had within the Secretary of

17   State's office about this situation.

18   Q.   So you don't know, one way or the other?

19   A.   I do not.

20   Q.   Do you know if there is an ongoing

21   investigation into this?

22   A.   I do not.

23   Q.   Do you know to the extent there is an

24   investigation who in the Secretary of State's office

25   would be responsible for this?

1   A.   I do not.

2   Q.   If you wanted to ask someone about this

3   issue, who would you ask?

4   A.   I would petition my question to the state

5   elections director, Mr. Harvey.

6   Q.   It says in the last sentence of this press

7   release, "We can also confirm that no personal data

8   was breached and our system remains secure." Do you

9   see that?

10   A.   I do.

11   Q.   Do you have any information about that

12   confirmation that no personal data was breached?

13   A.   I do not.

14   Q.   So you don't know whether it's true or not?

15   A.   I do not know how the press secretary came

16   up with that quote.

17   Q.   I'm going to ask you to step back and I'm

18   going to represent to you some of the testimony that

19   I recall from the preliminary injunction hearing that

20   we had in this case back in September.

21   A.   Uh-huh.

22   Q.   If you -- you know, if you dispute, if I

23   get any of this wrong, please let me know.

24   A.   No, I understand.

25   Q.   I'm not trying to trick you.

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1   But I recall that you testified that a

2   voting machine virus would need to know the position

3   of a candidate in order -- in a database in order to

4   change votes.

5   A.   Uh-huh.

6   Q.   Do you recall that?

7   A.   I don't directly recall that statement, but

8   that doesn't mean that I didn't say it.

9   Q.   Do you believe that statement is correct

10   today, that in order to change votes, a hacker would

11   need to know the position of a candidate in the

12   database?

13   Excuse me.

14   A.   It's, it's my position that if someone was

15   trying to alter the results that you need to know

16   where the individual candidate is positioned within

17   the table structure. That, you know, Candidate X is

18   this ID number. Candidate Y is this ID number.

19   That's my belief that if you had that information,

20   then perhaps you could write some code that could

21   reassign both vote totals based upon altered IDs.

22   Q.   What is the basis, what is your basis for

23   that belief? How did you come to that understanding?

24   A.   That is just my belief that if you had

25   access to that information, that you would have the

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 1   ability to manipulate it.

 2   Q.   And absent access to that information, you

 3   do not have the ability to manipulate it; is that

 4   your belief?

 5   A.   I'm saying that my belief is if you have

 6   access to it, you have an ability to manipulate it.

 7   Absent access to it, I am -- I don't know what

 8   abilities exist to a person that may be trying to

 9   hack an outcome. You know, what their skill sets

10   are. What -- you know, and so forth. So I can't

11   speak to what possibly could they design, I don't

12   know.

13   Q.   Okay. So it is not your position that one

14   would need to know the position of a candidate in a

15   database in order to change the votes.

16   A.   It's my position that if they had

17   information of the position, it may make their job

18   easier.

19   Q.   Okay. Just to be clear for the record, it

20   is not your position that one would need to know the

21   position of a candidate in a database in order to

22   change the votes.

23   A.   "I do not know" is -- is the answer to the

24   question. I do not know what may or may not be

25   needed.

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1   MS. BENTROTT: I think now might be a good

2   time for a break if that works for you.

3   THE WITNESS: Sure.

4   THE VIDEOGRAPHER: The time is 4:13 p.m.

5   We are now off the record.

6   (WHEREUPON, a recess was taken.)

7   THE VIDEOGRAPHER: The time is 4:25 p.m.

8   We are back on the record.

9   Q   (By Ms. Bentrott) I wanted to circle back

10   to some of our earlier conversations just to follow

11   up on some of the things I didn't completely

12   understand, if you don't mind.

13   A.   Okay.

14   Q.   The CD that's sent to the counties --

15   A.   Yes.

16   Q.   -- what file types are included on that CD?

17   A.   It is a single file within a zipped folder.

18   There's only one file that's sent to the county on

19   the CD and that is a GEMS database, a dot-GBF file.

20   Q.   So the dot-GBF file is the GEMS database

21   file?

22   A.   That is correct.

23   Q.   It's not a Microsoft Access file?

24   A.   That is correct.

25   Q.   What is a dot-GBF file, generally speaking?

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1   A.   That best way that I can explain it is a

2   Word file is a dot-DOC file. You have to have Word

3   to open a dot-DOC file. You have to have GEMS to

4   open up a GBF file. GEMS is an executable, it reads

5   a dot-GBF file. That is the -- that's the output

6   that it creates is a dot-GBF file.

7   Q.   So does GEMS take the information from

8   Microsoft Access into GEMS to create the GEMS

9   database?

10   A.   GEMS is like, from my understanding and the

11   way I see it in my head, GEMS is like a graphical

12   interface program where you open up GEMS, you work

13   through GEMS, and the information that you place into

14   GEMS is being placed into an Access database table

15   structure. But when you have completed the work and

16   you save the file, it is saved as a dot-GBF file.

17   Q.   That really cleared things up for me.

18   Thank you.

19   Okay. So we have talked about, I think,

20   you have gone really into very helpful step-by-step

21   detail about some of the process in election

22   administration. And apologies if I'm circling back

23   on some things we have discussed. But I want to make

24   sure I understand the whole process from beginning to

25   end, soup to nuts.

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1   I think we have covered for creating

2   ballots pretty thoroughly, for distributing ballots

3   to the counties. What can you tell me about the

4   entire process for programming the DREs for the

5   election?

6   A.   The, again, county gets the GEMS database.

7   The GEMS database is loaded to their local county

8   GEMS computer. Once they have brought up the data

9   file, then they execute an operation within the GEMS

10   database that tells the -- the GEMS program how many

11   memory cards have to be created for the various poll

12   locations. So it's called the vote center editor.

13   Is you -- let's say that you are -- the name of your

14   polling location, your election day polling location

15   is 01J, that that's the name of the polling location.

16   You would open up that polling location and

17   change its number of memory cards equal to however

18   many DRE machines you intend to use for that

19   location. When the -- when the database is sent to a

20   jurisdiction, it is at the default setting of one.

21   Because we don't know when we are building the

22   database how many, how many devices a -- a

23   jurisdiction plans to use in a given location.

24   So the county themselves go in and update

25   that information within the database to say X number

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1   of memory cards for this location, X number of memory

2   cards for this location. And they go through all of

3   their locations, whether they have one polling

4   location or 300 polling locations, they have to go in

5   and update those numbers. And that creates a listing

6   of memory cards to be created.

7   Then in order to create the memory card, a

8   touch screen has to be connected to the GEMS

9   computer. An optical scan unit has to be connected

10   to the GEMS computer. And counties normally have a

11   specific touch screen connected to the server or

12   touch screens connected to their GEMS computer in

13   a -- in a permanent state. They use that device

14   solely to create memory cards. They don't use it for

15   anything else.

16   And same thing goes for the optical scan

17   unit. The optical scan that's connected to the

18   server is there to create the needed memory cards.

19   Once the -- as the memory card is created, a label is

20   generated that outlines what machine ID that touch

21   screen will now be. The machine ID is like the

22   memory card.

23   The memory card, zero is the first memory

24   card created in a polling location. Memory card ID

25   two, or one is like the second card created. So the

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1   numbering sequence starts at zero as opposed to one.

2   Q.   Very European.

3   A.   So if you have 10 cards for a location, its

4   memory ID is zero through nine.

5   Once those memory cards are created, then

6   the memory cards have to be placed into a DRE unit.

7   Before the memory card is placed into the DRE unit, a

8   jurisdiction normally will write on the label that's

9   attached to the memory card the serial number of the

10 DRE that that memory card is being inserted into.

11   So that if something were to happen to the

12 memory card, we could always go back to that specific

13 machine and collect information from the machine

14 directly if something happened to the memory card.

15   And what I mean by to the memory card is

16 that it became damaged in transport post-election or

17 it just became unreadable, you can always go back to

18 the archive memory on the touch screen itself and

19 collect the same information that had been saved to

20 the memory card.

21   Memory card is placed into the DRE. Memory

22 card is placed into the optical scan unit. And then

23 the county goes through their logic and accuracy

24 process where they test the functionality of the

25 equipment, but also validate the look of the ballot.

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1   They have seen the ballot in optical scan through the

2   approving process. The process is the first time to

3   see the process on the touch screen.

4   While our operation at the Secretary of

5   State's office has seen the ballot and it felt like

6   it's in good shape, the county may see something that

7   our eyes did not see once they see it at the county

8   level. If they see that, they can be in contact with

9   us to see if it's something that we need to address.

10 Or if it can be addressed based upon, you know, what

11 the issue is.

12   One issue may sometimes be just the size of

13 a question is -- the county may ask the question of

14 like can that -- does that question have to go

15 between two pages or two screens. Can you do

16 something to get it into one screen. Something like

17 that.

18   Whereas, when we see it in our, in our eyes

19 in the Secretary of State's office, the two screens,

20 it's fine with us. But the county may see it and

21 say, Oh, no, that's going to impact the election. We

22 need to try to get that scaled down. Is there

23 anything you can do to help us?

24   So counties go through their testing review

25 of the ballots on review of the operations. Once

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1   they have completed their testing then the equipment

2   becomes sealed and stored and ready for transfer

3   to -- or transport to the polling, polling, polling

4   office. The DRE is transferred to the advance voting

5   location for advance voting. DRE transferred to the

6   polling locations for the election stay.

7   The optical scans stay normally within the

8   election office because they're used to process mail

9   and absentees and also provisional balloting. And

10   that's all done centrally within the elections

11   office. The optical scan does not have to be

12   transported to a polling place.

13   Q.   That was so much helpful information, thank

14   you. I'm going to have some follow-up questions on

15   all of this, so I appreciate your patience with me.

16   The memory cards that are created, how does

17   the county obtain those? Is that up to them or is

18   that something that they get from the State?

19   A.   Memory cards are maintained by the county.

20   Q.   And so they -- do you know what kind of

21   memory cards are they are?

22   A.   They are -- they are PCMCIA memory card.

23   Q.   Do you know where the counties, from where

24   the counties acquire the memory cards?

25   A.   The memory cards came with the devices. So

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1 when the State originally procured the equipment in

2 2002, the State procured the equipment and two memory

3 cards per device. A 128-megabyte memory card and a

4 64-megabyte or a 48-megabyte memory card. Since that

5 initial distribution, counties have procured

6 additional memory cards from the vendor. All the

7 memory cards are procured from the vendor.

8   Q.   Okay. And you mentioned something about

9 creating the labels. How are the labels created? Is

10 that a software program that does that?

11   A.   The labels are printed out from the touch

12 screen unit that the -- when -- when GEMS -- when you

13 create the memory card, or when you transfer data to

14 the memory card from the GEMS computer, you have to

15 use a touch screen for the memory card to be inserted

16 in. And then GEMS loads the information through the

17 touch screen onto the memory card.

18   When that writing process completes, the

19 onboard printer on the DRE prints out a label tape

20 that is then removed and made available to be then

21 attached to the memory card when it's removed from

22 that device.

23   Q.   So the DRE prints out a label?

24   A.   It prints out a label at the time of

25 completion of the generation of the memory card.

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1   Q.   And so the single DRE that's used for

2   making all of the memory cards will do this process

3   for each one?

4   A.   That is correct.

5   Q.   You mentioned something called a vote

6   center editor.

7   A.   Uh-huh.

8   Q.   Is that -- is that software? What is that?

9   A.   That's just a -- a -- it's one of the

10   operations within GEMS. Is when you are like editing

11   text on a ballot, it's a race editor. If you are

12   changing the name of a vote center or changing its

13   count method from touch screen to optical scan,

14   that's something that's done in the vote center

15   editor.

16   Q.   Are there any other changes that are

17   routinely made to the GEMS database at the county

18   level besides the ones you mentioned?

19   A.   The county will enter in active voter

20   registration numbers so that the system can calculate

21   voter turnout percentages once it starts receiving

22   ballots cast back from the DREs and the optical

23   scans.

24   When the databases are sent to the

25   counties, registration is still ongoing. So we don't

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 1    know what the final total number of active voters is

 2    for the various combos within the database.  So

 3    that's a number that the counties themselves enter

 4    in.

 5         Q.    Anything else?

 6         A.    I cannot think of anything else that the

 7    county is doing with the database at -- once they

 8    receive possession of it.

 9         Q.    And so you mentioned for example that after

10    the county looks at that touch screen for the first

11    time, and they may want to see some changes, are

12    those changes that the county would administer based

13    on their own manipulation of the database --

14         A.    No.

15         Q.    -- or is that something that would go

16    back --

17         A.    That would come back to the Secretary of

18    State.  If it's -- if it's altering how the system

19    may be displayed, then that's something that comes

20    back to the State for a new version of the database

21    to be produced and forwarded to the county.

22         Q.    And then the process, the current process

23    would be the same then.

24         A.    Yes.

25         Q.    In just another iteration.
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1   A.   Yes, yes.

2   Q.   And so the database would be updated, keyed

3   in manually at the Secretary of State's office --

4   A.   Uh-huh.

5   Q.   -- and then sent by secure FTP back to the

6   county?

7   A.   No, it would be physically delivered to the

8   county.

9   Q.   Physically -- on the CD that's encrypted.

10   A.   Yes, yes.

11   Q.   Understood.

12   You said that there might be an instance

13   where some of the memory cards might be unreadable.

14   Can you recall any instance where that has happened?

15   A.   We have had situations where the county

16   poll officer will -- in the closing procedures you

17   have to do a certain sequence of events where when it

18   is finished printing a tape, it will say, you know,

19   Do you want to print another? Yes or no. And they

20   will hit no and then it starts ending the election

21   and transitioning from mode to mode.

22   Sometimes during that process, they remove

23   the memory card too quickly. It's actually in the

24   process of still completing a write cycle to the

25   memory card. By removing that memory card, they may

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1   have then made that memory card corrupt at the last

2   line within the file. So then when you put it back

3   into another touch screen to access the data, it says

4   I can't read what's on the card.

5   This normally happens after the tape has

6   already been printed out from the device. But what

7   we do in that circumstance is we go through a

8   recovery process where you can go back to the DRE

9   itself and recover the archived file that's also

10 saved to the device. When a vote is cast, when an

11 election is loaded, it's saved twice. It's saved to

12 the memory card, but it's also saved to a backup

13 location on the device itself.

14   Q.   I love when you anticipate my questions.

15 That's exactly what I was going to ask. So that

16 brings me to another question, which I was going to

17 come to later, but I might as well ask it now.

18   The backup file that's saved on the DRE

19 machine, for how long is that saved?

20   A.   The way that the vendor has made the

21 explanations to us through questioning through the

22 years, is that when it gets to a size capacity where

23 it can't load the next election, then it finds the

24 oldest record in storage and removes that file in

25 order to create available space. So the oldest files

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1   are the first to be removed.

2   Q.   This is an automatic function?

3   A.   This is an automatic function.

4   Q.   Do you have any estimate as to, sort of,

5   how many elections' worth of data can typically be

6   stored on one of these DREs before they start auto

7   deleting?

8   A.   The file itself that's retained is

9   kilobytes -- not kilobytes -- is in just bytes of

10   size. It's a very, very small file. So I was right.

11   It's kilobytes, not megabytes. Kilobytes in size.

12   So it takes a long time for that memory to

13   be impacted. I don't know the total estimate of how

14   much storage is there, so I couldn't give you an

15   estimate of how long.

16   Q.   Are the memory cards that are placed in the

17   DREs different from the memory cards that are placed

18   in the optical scan units?

19   A.   Yes.

20   Q.   Are they like physically different types of

21   memory cards?

22   A.   Yes.

23   Q.   What's the type of memory card that's used

24   in the optical scan?

25   A.   It's an older classification of a flash

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1 memory card, but it has to have on it a battery to

2 maintain a power source. The touch screen memory

3 cards do not need that additional power source to

4 maintain data on them, so it's just a -- it's a newer

5 generation of flash media.

6   Q.   Do you know the name of it?

7   A.   I don't know the name of it.

8   Q.   It's provided by the vendor?

9   A.   Yes.

10   Q.   Okay. We have covered some of this

11 already, but I think I just want to get it soup to

12 nuts. Can you describe the process for tabulating

13 votes at the end of an election?

14   A.   At the end of an election, the last voter

15 will vote in the polling location. Once the last

16 voter has voted in the polling location, then the

17 poll workers begin their closing procedures of the

18 voting equipment within the polling location. They

19 have a specific -- it's called a supervisor card.

20 And it's so labeled. It's not yellow, it's green.

21   And they take that supervisor card and

22 insert it into the DRE machine and insert a passcode

23 that the machine is -- is anticipating. If they

24 don't put the right code in, they can't go any

25 further. Once the code is accepted by the machine,

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1   then -- the voter access, the supervisor card is

2   ejected and the poll worker has the option then to

3   end the election on the device.

4   When they select end election, it then

5   produces a tape for that machine that indicates what

6   that machine collected. It gives a summary of

7   totals. It says, Here are the races that were on

8   this machine and here are the collected results by

9   candidate within each race.

10   Once that tape finishes printing, the poll

11   worker gets -- does remove that tape, and that tape

12   is attached to the zero tape that was printed at the

13   morning opening procedures. A zero tape was printed

14   at opening and signed and left attached to the

15   device. And then a closing tape is at the bottom end

16   of that tape, removed and signed by the polling

17   officers.

18   After that tape is printed, the touch

19   screen asks them if they would like to print another

20   copy and the answer is yes. So they would print a

21   second copy of the results. When that tape finishes

22   printing, they remove it, sign it. It's signed in

23   triplicate. And then they are asked again, Do you

24   need another copy? And the answer is yes. So the

25   third copy is produced from each -- and this process

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1   repeats itself in every touch screen device used in

2   the polling location.

3   Q.   Sorry to interject, but it's the supervisor

4   that does this on every machine?

5   A.   Yes, it's the poll manager is probably more

6   what they are phrased too, is the one that's in

7   control of that supervisor card. And normally that

8   supervisor card is in a sealed envelope. Because you

9   don't need that supervisor card for operations from

10   the opening. You don't need that supervisor card

11   during election day use. You just need it in order

12   to end the election on the device at the close of

13   polls.

14   Once they have completed closing and

15   printing out the various tapes from the individual

16   machines, they can then power the machines off. Once

17   the machines are powered off, they then remove the

18   memory card. And those memory cards are placed into

19   whatever apparatus the county provides the poll

20   worker to secure those cards. The cards and the

21   tapes. There's a tape that's posted at the polling

22   location, but the other two tapes are to be returned

23   with the cards to the elections office.

24   While this is all ongoing, they are also

25   doing their reconciliation work, looking at the

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1   number of voter certificates that have been

2   completed. Looking at the number of voters marked on

3   the Express Poll. They have also recorded down the

4   total number of ballots cast on each individual DRE

5   machine as part of their reconciliation process.

6   Once they have completed that entire

7   process, then the poll manager and another member of

8   the poll team in most cases, county instructs poll

9   workers how to do this. Then collect the materials

10   that are to be returned to the elections office on

11   that night and then proceed back to the elections

12   office.

13   The elections office then collects that

14   information back from the poll officers when they

15   arrive. They, they do whatever they do in a chain of

16   custody environment to account for, okay, I was

17   expecting this to come back, this has now been

18   received and now I have possession of it and you

19   are -- you are good for your -- you have done what

20   you needed to do.

21   The county then will find the memory cards

22   in that packet and bring them into the GEMS area,

23   wherever the GEMS computer is. And then they start

24   the upload of those memory cards into GEMS. Before

25   they do the first upload into GEMS, after 7:00 p.m.,

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1   or the close, the close of polls, they are going to

2   print out a report from GEMS to confirm that it's

3   also at zero just as the touch screens were at zero

4   during opening to validate that there are no election

5   results existing in the database prior to the first

6   memory card being uploaded.

7   Then they begin the upload process and the

8   upload process is transferring data, not results, but

9   data. Transferring data from the memory card into

10   GEMS and then GEMS is calculating the total itself.

11   And -- but GEMS is calculating all the

12   various locations together, so it's -- GEMS says you

13   have 10 cards outstanding for this location. You

14   have six cards. And it starts reading and saying,

15   Okay, I have that card now. I have this card now.

16   Here's what's been collected. And then periodically

17   through the night, the election, the county elections

18   office is stopping the upload in order to produce

19   reports that can be distributed to the public for,

20   you know, showing their progress in the tabulation

21   process.

22   Optical scan-wise, the mail-in absentee

23   ballots have been returned from the registrar. And

24   the county election officials begin the process of

25   opening the outer envelope, removing the inner

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1   envelope, opening the inner envelope, removing the

2   ballot and then getting the ballots stacked however

3   they may want to stack them so that they can then be

4   processed through the optical scan devices.

5   Once they have finished processing a -- you

6   know, a set of ballots or completing the process,

7   they then send a what's called an ender through the

8   optical scan device and the ender card tells the

9   optical scan device, the election's ended, you can

10   print a tape now. So the optical scan then prints

11   out a tape and it shows the results calculated -- you

12   know, collected by that device through the scanning

13   process.

14   And, again, three tapes are printed and

15   then that memory card is removed and brought over to

16   the GEMS environment where it is also uploaded.

17   Q.   Okay. Amazing. So the ender card --

18   A.   Uh-huh.

19   Q.   -- is that -- is that like a paper ballot?

20   A.   Yes, yes.

21   Q.   So it's not like a memory card?

22   A.   It is -- it is a physical piece of paper.

23   Q.   And the stacking of the ballots to process

24   through the optical scan, is that because the optical

25   scanner can process multiple ballots at once?

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1   A.   It's because the optical scanner is

2   actually limited in its memory size.   When -- an

3   example would be in Fulton County.   The absentee

4   location, the absentee has to have all precincts

5   assigned to it.   Because anybody can vote absentee.

6   And we have to count votes by precincts within the

7   State of Georgia at the absentee level.

8   So Fulton County has over 300-plus

9   reporting precincts, precincts.   But an optical scan

10   memory card can only hold up to 22 reporting

11   precincts at a time.   So Fulton County has to create

12   a memory card that handles one through 22.   And then

13   a memory card that handles precincts 23 through 44

14   and so forth and so on until they get all of their

15   precincts accounted for.

16   So when the ballots are received back in

17   the elections office, they have to remove the ballot

18   from the envelope and there are identifiers on the

19   ballot at the bottom that tells you what the

20   reporting precinct is that that ballot is assigned

21   to.   So they have to stack the ballots by certain

22   combinations of precincts because that scanner can

23   only read those ballots.

24   And this scanner over here can only read

25   this other set of ballots and so on forth and so on.

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1   So that's why they have to organize the ballots

2   before they start scanning the ballots.

3   Q.   Do you have any understanding of how fast

4   the optical scanner can process certain number of

5   ballots?

6   A.   Well, it processes one ballot at a time.

7   Because the ballot is fed one ballot at a time. So

8   how quickly that ballot is processed is a matter of

9   how long is the ballot, how complicated is the

10   ballot. But it's a matter of feeding that ballot

11   one, one feed at a time.

12   The scanners that the counties have as part

13   of the State's system are all classified as precinct

14   count, precinct scanners. And they are designed to

15   be -- they were actually designed to be at the

16   polling location on Election Day and be fed by the

17   voter directly. But when the State procured this

18   system, there was no central scanner available, it

19   was only these precinct level scanners.

20   So we have been able -- we have been using

21   a precinct level scanner in a central scanning

22   capacity.

23   Q.   And people also vote absentee on DRE

24   machines, correct?

25   A.   That is correct.

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1   Q. And I might have missed it. Did you

2 mention the process by which those -- the -- the DRE

3 machines are -- the results are tabulated at the end

4 of the election?

5   A. It's the same process. The last date that

6 they are used is the Friday preceding the election.

7 So on the end of that day, the county simply records

8 the last public count number on the device. Closes

9 the -- close -- turns the machine off. They don't

10 end the election. Because if you were to end the

11 election, it would print out a tape. And knowing

12 results before Election Day, that's not allowed under

13 the code or under the rules.

14   So counties power the machines off, close

15 and seal the machines. And then those machines are

16 brought back to the elections office where the GEMS

17 system is and held, and held onto by the county so

18 that when 7:00 o'clock happens on election night,

19 they can break the seals, open the devices up, power

20 them back on and then end the election on those

21 devices.

22   Once they have completed ending the

23 election on those devices and gotten the necessary

24 tapes, then it's the same close procedures as it is

25 in election polling locations.

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1   Q.   Are there state-wide processes or

2   regulations for how those absentee DREs are stored

3   and secured during that time period between the

4   Friday before Election Day and when the seals are

5   broken --

6   A.   There are state election board rules in

7   place that counties have to follow in regards to

8   maintaining the equipment during the elections

9   operation.

10   Q.   And do you know what those are, do you

11   know --

12   A.   I don't know the specific site code.

13   Q.   Understood.

14   The poll manager card that has a

15   supervisor -- is that the card that has a supervisor

16   code or are they two different things?

17   A.   The, the green supervisor card does have a

18   code associated to it, yes.

19   Q.   Is it a code that's sort of electronically

20   embedded or is it written on it?

21   A.   It's within the smart chip.

22   Q.   And so how is that code written into the

23   smart chip?

24   A.   That's done periodically by the Secretary

25   of State's office, is that the supervisor cards are

Page 224

1   collected or the county is bringing those supervisor

2   cards back into the State and then the State updates

3   that, that code, puts a different code on there for

4   the next round of elections operations.

5   Q.   And so this is done between every election?

6   A.   It's not done between every election. It's

7   done sort of on a two-year cycle.

8   Q.   Are all counties done at once or are they

9   kind of staggered?

10   A.   We try to do them all at once, but because

11   of the election calendar and how many are coming in,

12   it sort of takes about a six-month period to get them

13   all done.

14   Q.   So you said that it's placed, it's normally

15   placed in a sealed envelope until the close of an

16   election; is that correct?

17   A.   Uh-huh, uh-huh.

18   Q.   Is that required or that's just common

19   practice, to your knowledge?

20   A.   I believe that is outlined in the SEB

21   rules.

22   Q.   And so if, if a single supervisor card is

23   reused in multiple elections over a two-year period,

24   is there -- what is the life cycle of that card, so

25   to speak? If it somehow ends up in sealed envelope

Page 225

1   and then gets used and then is saved again until

2   Secretary of State's office takes it back?

3   A.   Yes, because it's possession of the county.

4   So the county is accounting for those cards after the

5   election and making sure that they got -- as part of

6   the supplies that are being accounted for

7   post-election.

8   Q.   And so --

9   A.   They know what went out pre --

10   Q.   How do they get in the sealed envelope?

11   A.   That's all the county's preparation of

12   supplies, poll worker supplies.

13   Q.   And do you know anything about where they

14   are stored or how they are stored?

15   A.   Each county maintains that themselves.

16   Q.   Understood.

17   I recall you said something about voter

18   certification being completed. Do you recall that?

19   Voter certificates.

20   A.   Yes. Okay. Yes. Voter certificate, yes.

21   Q.   What are the voter certificates?

22   A.   Voter certificate is a form that a voter

23   completes when they enter the polling location prior

24   to -- prior to present themselves at the -- at the

25   Express Poll. It is where a voter indicates if it's

Page 226

1   a primary perhaps, whether they intend to select a --

2   request a Democratic, Republican or nonpartisan

3   ballot.

4   It also contains the oath that a voter

5   adheres to in relation to, you know, my vote is not

6   for sale and so forth, information. Basically it

7   collects the signature of the voter. That is -- and

8   the voter certificate, the completed voter

9   certificate ends up being the official record of who

10 participated in the polling location during that day.

11   Q.   Is this a paper document or is this

12 something done electronically?

13   A.   That is a paper document.

14   Q.   Is this paper document the same state-wide

15 or are there county or precinct specific versions of

16 this document?

17   A.   I believe that all voter certificates are

18 the same. That is a supply that's supplied to

19 counties by the Secretary of State's office.

20   Q.   Do you know what the cost is of preparing

21 the voter certificates?

22   A.   I do not. I do not.

23   Q.   Are you involved in the design, printing,

24 ordering or distribution of voter certificates?

25   A.   I am not.

                                        Page 227

1   Q.   What is your understanding of the process

2   for collecting the voter certificates at the end of

3   the election?

4   A.   My understanding is that the certificates

5   as they are collected are placed into a binder and

6   they are placed in sequential order.

7   Q.   Then what happens to them?

8   A.   That they are retained and brought back as

9   part of the poll supplies that the poll officer is

10   required to bring back post-election from the polling

11   location.

12   Q.   Are they retained ultimately by the county

13   or by the State?

14   A.   By, I believe, the county. That's part of

15   the official record that is maintained by the county.

16   Q.   Does the State ever take possession of

17   those?

18   A.   I do not believe so, no.

19   Q.   Can you describe for me the -- from soup to

20   nuts, the processes for post-election reporting?

21   A.   In what way?

22   Q.   Once the votes are tabulated, they are

23   reported somehow.

24   A.   Okay. They are basically reported in two

25   ways, through physical reports that are generated at

Page 228

1   the county from the GEMS computer. Election summary

2   report, that's normally the most common report

3   generated by the county and it will be labeled as

4   unofficial and incomplete.

5   But the county user will also produce a --

6   an export file, a text file that's generated from the

7   GEMS computer that can be interpreted by the State's

8   election night reporting system. The text file is

9   generated. The county user goes into GEMS and says,

10   I need to create an export file. The export file is

11   created and saved to a specific location on the

12   county computer.

13   And then the county has a mechanism using a

14   specific USB drive that the State provided, one of

15   those lockable USB drives. That when the drive is

16   placed into the server, the first thing they do is

17   run a batch process that completely reformats the

18   drive. And then once that process is done, it copies

19   the file that's been created, the text file, and

20   places it into a zipped folder. And then the zipped

21   folder is transitioned to the USB drive.

22   The USB drive is then removed and put into

23   the locked position by the county. The USB drive is

24   then taken to a county computer that the county can

25   access the Secretary of State's election night

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1   reporting system. They sign in using their user name

2   and credentials. And then they upload that zip file

3   to the states ENR system and the ENR system collects

4   the data from that and rolls that into the State's

5   electronic display of results on election night.

6   Q.   So the lockable USBs that are provided by

7   the State, what types of those -- what types of USB

8   drives are those?

9   A.   It's a ScanDisk four gigabyte.

10   Q.   When are those provided to the counties?

11   A.   Those were provided to the county years

12   ago. I would be guessing to tell you what year at

13   this point, but they have been in use in the county

14   for years now.

15   Q.   So it's not like a new USB for a particular

16   election that's provided at a particular time?

17   A.   That is correct.

18   Q.   And you said something about reformatting

19   the drive.

20   A.   Uh-huh.

21   Q.   In what way is the drive reformatted?

22   A.   The reformat process is run, as we spoke

23   earlier how you would isolate the drive and any data

24   that's on it through the reformatting process is

25   wiped clean. So if there's anything that's not --

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1   the zeros and ones are all converted back to all

2   zeros.

3   Q.   I see.

4   And you mentioned the Secretary of State's

5   election night reporting system.

6   A.   Uh-huh.

7   Q.   I think this is maybe the first time we

8   have discussed this today unless I'm mistaken. Do

9   you recall, have we talked about this?

10   A.   No, I don't think we have.

11   Q.   And so with a -- what can you tell me about

12   that system? Where, where is it housed? What is the

13   software that's used?

14   A.   I can't speak a lot to that. They --

15   Secretary of State's office contracts with a vendor.

16   I believe the vendor is Scytl, that is the vendor

17   that supplies an election night reporting process.

18   So what software's in play, I just know the process

19   of creating the export file and getting it off of the

20   GEMS device over to the -- over to the computer that

21   the county does the upload.

22   From that step forward, that's all handled

23   by another section of the Secretary of State's

24   office, not mine.

25   Q.   And the counties have password-protected

Page 231

1   access --

2   A.   Yes.

3   Q.   -- to the Secretary of State's reporting

4   system.

5   A.   Yes.

6   Q.   But this reporting system is not housed on

7   one of the GEMS servers in your office?

8   A.   It is not. It is not. It is not.

9   Q.   Can you spell the name of that vendor you

10 mentioned?

11   A.   S-c-y-t-l, I think that's it. It doesn't

12 have an ending -- it doesn't have a final "E."

13   Q.   I'm so glad I asked. I never would have

14 gotten there. Okay.

15   What do you know about the counties'

16 processes for transporting the DREs back to storage

17 at the end of an election?

18   A.   I don't know. I don't know how each

19 individual county does that. Each county is

20 different in how they process and move that

21 equipment, so I do not know.

22   Q.   So that's up to the county?

23   A.   That's up to the county.

24   Q.   Does the State require background checks to

25 be performed on poll workers or election workers or

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 1   others with access to the DRE machine?

 2        A.    I'm not aware of a State requirement.

 3        Q.    Does the state have any processes or

 4   procedures to ensure that those with access to the

 5   DRE machines are not security risks?

 6        A.    I do not know of any anything in place.

 7        Q.    As to those employees at the Secretary of

 8   State's office that have access to any of the

 9   hardware that's used in the elections or even in the

10   Secretary of State's office for testing and

11   validation.

12        A.    Uh-huh.

13        Q.    Are background checks conducted on those

14   individuals?

15        A.    Yes.  The Secretary of State's office does

16   run background checks, to my knowledge, on all

17   employees that the Secretary of State's office takes

18   on.

19        Q.    Where do you keep the lockable USB -- is --

20   that's what you use, the lockable USB, to transfer

21   the database?

22        A.    The one that I use for the Center --

23        Q.    Yes.

24        A.    -- it stays in my desk.

25        Q.    Is it under lock and key?
```

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1   A.   Yes, it is.

2   Q.   Where do you keep the key?

3   A.   With me. Or actually not with me, I keep

4   it in my office.

5   Q.   Where in your office?

6   A.   In a separate desk drawer.

7   Q.   Is that desk drawer locked?

8   A.   That desk drawer is not locked, but you

9   can't get access into my office without having the

10   security key to get into that area.

11   Q.   Are visitors ever permitted in your office?

12   A.   Visitors are in my office, but only with

13   other people.

14   Q.   And custodial staff does clean your office?

15   A.   During the day, during business hours, and

16   they are not -- they don't have access into the

17   building without us being present.

18   Q.   What role do you play, you or your office,

19   in designing training for administering an election

20   on DREs?

21   A.   We have developed training classes in the

22   past on operations that the State has isolated as

23   what a county would be performing locally.

24   Q.   Do you continue to develop training?

25   A.   The system has not altered in 17 years

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1   approximately. So we had a base structure of

2   training and then enhance it as years go by. Change,

3   you know, points of emphasis as we move through.

4   Q.   When was the last time you changed the

5   training?

6   A.   There's been a lot more talk about physical

7   security and equipment within the presentation since

8   2016 and after would be the main scope of discussion

9   within the training class. Of like the importance of

10 physical security, always being aware where your

11 equipment is, who has access to it, why do they have

12 access to it, do you have the proper location in

13 place to monitor who comes into your area where your

14 GEMS computer is, or where your voting machines may

15 be stored and located.

16   Q.   And why would you say this has gotten

17 increased attention since your estimate of 2016?

18   A.   Not to be -- you know, not to be, you know,

19 smart in my response, but dealing with all of these

20 circumstances that have happened since 2016. It's

21 created a more enhanced view from the Secretary of

22 State's standpoint about the importance of security.

23   Counties are -- counties run elections, but

24 the State provides guidance in those elections and

25 the State has been trying to provide more guidance to

Page 235

1   the counties to make sure that they are protecting

2   that asset that they are holding onto.

3   Q.   The training, it comes in the form of

4   videos?

5   A.   Not anymore. All training is done in

6   person. We do not have any training videos on-line

7   of any sort. If a training class is held, it's in

8   person where either I'm instructing the class or

9   other members of the Secretary of State's office is

10   instructing the class within a facility maintained at

11   the Secretary of State's office in Macon.

12   Q.   So election workers from throughout the

13   state will come to Macon to attend these trainings?

14   A.   When those training classes happen.

15   Normally, it's part of the official State's Georgia

16   election officials certification process. So as new

17   election officials come onboard, they have to take

18   these training classes.

19   Part of the training classes are through

20   the elections division and they are provided on-line

21   through sessions like that. But when it has to deal

22   with equipment itself, then they have to come in

23   person, you know, Secretary of State representatives

24   is in the room discussing the equipment with them in

25   person in talking about, you know, how to use the

Page 236

1   equipment.

2   Q.   Are only new election workers required to

3   attend training?

4   A.   They are required, but normally it's not

5   just new election officials that attend those classes

6   when they are scheduled. We have had repeat visitors

7   time and time again where they just come in for what

8   they classify as sort of a refresher on the system.

9   So they, you know, keep fresh on how to use

10   equipment, how to make sure they maintain it

11   properly.

12   Q.   It would be -- it wouldn't be against the

13   protocols or the rules for an election worker who has

14   been doing this since 2005, say, to not have had a

15   training since then; is that correct?

16   A.   The training classes that we provide are

17   provided to the elections office. The elections

18   supervisor, their assistant supervisor, who they deem

19   as being that person that then goes back and trains

20   the poll workers.

21   So if, you know, we have interacted with

22   every elections office at some point in time through

23   this 17 years of use of the system.

24   Q.   It's possible, though, that to the extent

25   an elections office doesn't have new supervisors or

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1   assistant supervisors and hasn't had any new staff in

2   the last, let's say, five years, that they haven't

3   had any trainings in the last --

4   A.   Well, every election official is required

5   to attend a state-wide conference that is put

6   together by the Georgia Election Officials

7   Association. And at that conference, Secretary of

8   State is involved to participate to provide training

9   sessions to the -- to the entire state through that

10   conference on various items. Meaning like security.

11   I know that we have had -- or GEMS has had members of

12   the Department of Homeland Security come and speak to

13   its membership about maintaining security around

14   their voting systems.

15   Q.   How often is that conference held?

16   A.   Normally once a year. They have already

17   had the conference once this year and they are

18   already scheduled to have another conference in

19   December of this year. So we will actually do it

20   twice this year.

21   Q.   Why?

22   A.   Election year calendar.

23   Q.   So in an election year, it's typical to

24   have this twice?

25   A.   Depends on the calendar of events. But

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1   they wanted to have another meeting before the first

2   state-wide election in 2020. They didn't have want

3   to have a state-wide election in 2020 and then have a

4   situation to meet with all the counties again.

5   So the organization decided we will have a

6   meeting in spring of 2019 after the legislative

7   session. But we will also have a meeting at the end

8   of the year in 2019 leading into 2020 so that if

9   there's any directives that the State may need to

10   give to the jurisdictions on execution of elections

11   in 2020, they can hear it before the first state-wide

12   election.

13   Q.   Stepping back to the in-person trainings

14   that are held in Macon, are there written materials

15   that are produced by the Secretary of State's office?

16   A.   The PowerPoints that are generated are

17   printed out and provided to the participants.

18   Q.   And do you recall the last time that such a

19   training was administered?

20   A.   I believe I spent a day in Macon earlier

21   this year with doing a training class. But I could

22   be mistaken on that, but I feel like it was earlier

23   this year in Macon.

24   Q.   And do you recall that -- do you recall

25   updating the PowerPoint presentation prior to that

Page 239

1   training session?

2   A.   I know that the PowerPoint presentation was

3   updated in 2018. Mainly because we had transitioned

4   from a Kennesaw State to an SOS environment, so we

5   had to change the background. But we also at that

6   time found some opportunities to update some of the

7   content as well.

8   What -- what all did I update at that point

9   in time? I don't recall that, but ...

10   Q.   Does the Secretary of State's office

11   maintain current and previous versions of these

12   PowerPoint presentation?

13   A.   I -- I don't know how far back those

14   records go.

15   Q.   Do you know where they would be located

16   within the Secretary of State's office?

17   A.   There is a -- there's a training

18   coordinator within the Secretary of State's office.

19   I would assume that she has those.

20   Q.   Who is the training coordinator?

21   A.   Melanie Frechette. And don't ask me to

22   spell her last name. I can't do it.

23   Q.   And the same question with respect to any

24   presentation that are given at these state-wide

25   conference, are those -- are there written records of

Page 240

 1   those?

 2   A.   Those are -- there are written records.

 3   Those are supplied to the members of the organization

 4   by the organization itself. So Georgia Election

 5   Officials. So I don't know how long they keep those

 6   records. They are not a state entity. They are

 7   just -- they are an organization.

 8   Q.   To the extent that the Secretary of State

 9   or others from the Secretary of State's office

10   participate in that conference, are those records

11   maintained at the Secretary of State's office?

12   A.   I would assume so, yes.

13   Q.   Are there -- other than the trainings that

14   may occur at the state-wide conference and the

15   trainings we discussed that happened in Macon, are

16   there any other processes that the Secretary of

17   State's office engages in to train election officials

18   related to the use of DREs during elections?

19   A.   The Secretary of State's office has a -- a

20   process of communicating with the counties. I think

21   they call it 3T -- and this is again a different

22   section of the office than my section -- where they

23   have, they do sort of like a video chat with counties

24   and address certain topics that may be present at the

25   time.

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1   So I would -- I would deem that as another

2   opportunity of the elections staff reaching out to

3   the counties and making sure that they are aware of

4   circumstances or items that need to be focused on.

5   Q.   Are those --

6   A.   And that's monthly, I believe.

7   Q.   You always an anticipate my questions.

8   Excellent.

9   Are there any other training opportunities

10   that the Secretary of State's office is responsible

11   for related to training election officials on DREs?

12   A.   There may be others, but I think we have

13   covered them.

14   Q.   I'll ask this question at a high level just

15   in case you can give me a high level answer, and then

16   we will drill down if you know more.

17   For all of these processes that we have

18   discussed, creating the ballots, distributing them

19   through training, do you know of any cost estimates

20   of how much it costs Secretary of State's office to

21   engage in these processes?

22   A.   I do not.

23   Q.   Do you know if the Secretary of State's

24   office has performed any cost analysis?

25   A.   I do not.

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1   Q.   Who would you ask?

2   A.   Again, I would probably start by asking the

3   elections director, Mr. Harvey.

4   Q.   Okay. Soup to nuts. We are having so much

5   fun.

6   Can you describe all of the processes for

7   updating voter registration lists?

8   A.   That, I cannot speak to. I am not a user

9   of the voter registration system in relation to

10   registering voters and updating voter registration

11   reports in the State's voter registration system.

12   That's not an action I perform in my section of the

13   office.

14   Q.   Are there any components of the computer

15   network that are related to administering elections

16   that are connected to the Internet?

17   A.   Not that I'm aware of.

18   Q.   That are connected to phone lines?

19   A.   Not that I'm aware of.

20   Q.   Soup to nuts. Can you describe all

21   processes in place for preparing paper ballots?

22   A.   Again, my -- my basis of knowledge is all

23   within the current system of voting in Georgia. So

24   to speak to the preparation of something outside of

25   that system, I can't really speak to.

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1   Q.   Well, the State of Georgia does -- paper

2   ballots are in use in the State of Georgia, correct?

3   A.   Paper ballots, the optical scan ballots are

4   in use within the State of Georgia, but there are

5   other ways you can produce paper ballots. I can

6   speak to, you know, it's the same steps to build an

7   optical scan ballot as it is a DRE ballot. It's the

8   same process using our current system.

9   Everything that I have already spoken

10   about, it's the same. It's entering in the same

11   information in the same way, producing the same type

12   of output file. But when you say -- there's a

13   difference in code between a optical scan ballot and

14   a paper ballot and how it may be formulated out. So

15   that's why I -- I'm creating the difference between

16   those two.

17   Q.   Okay. I see, okay.

18   So when I say "paper ballots," I meant

19   optical scan ballots.

20   A.   All right.

21   Q.   But I can use your terminology to make sure

22   we are on the same page.

23   So once -- when optical scan ballots are in

24   use, they are in use currently in Georgia in two

25   ways, correct?

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1   A.   They are used for -- they are used for

2   mail-out absentee and they are used for provisional

3   balloting.

4   Q.   And so in the mail-out absentee ballot

5   process, what is the process for receiving and

6   securing those mailed-in ballots?

7   A.   Again, that's -- that's something that the

8   county handles. I can't speak to how the county

9   manages the -- the collection of the ballot, how they

10   maintain the security on the ballot. That's not

11   something that I execute on a daily basis. That's a

12   county operation.

13   Q.   And do you have any information on how the

14   county secures the in-person provisional ballots that

15   are optical scan ballots?

16   A.   My recollection of that is that if a

17   provisional ballot is collected at the polling

18   location on election day, it's placed into an

19   envelope and that envelope is placed into a sealed

20   ballot bag. And that sealed ballot bag is brought

21   back with the polling precinct's supplies at the end

22   of the election day and that bag is maintained--

23   Q.   Do you need some water?

24   A.   No, I'm good. I've got some water.

25   Q.   Okay.

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1   The sealed ballot bag, is that something

2   that the county obtains themselves or is that

3   something provided by the State?

4   A.   I believe that the sealed ballot bags that

5   the counties are currently using were provided by the

6   State back in the day. I don't know if counties have

7   procured additional bags since that time frame.

8   Q.   Do you recall how long ago those bags were

9   procured?

10   A.   2002.

11   Q.   Are the counties responsible for

12   distributing the paper ballots that are requested by

13   mail?

14   A.   Yes.

15   Q.   Are the paper ballots, the optical scan

16   ballots, whether they be the provisional ballots or

17   mail-in absentee ballots, are they -- are any

18   post-election audits conducted on those ballots?

19   A.   To my knowledge, I do not believe so.

20   Q.   Are any post-election audits conducted on

21   the DRE machines?

22   A.   I do not believe there's any statute

23   currently in place for that. I believe there's a new

24   statute that's just been passed moving forward, but,

25   currently, no.

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1   Q.   Does your office conduct or create any

2   trainings related to administering elections on the

3   optical scan ballots?

4   A.   Only in connection with the whole system.

5   We have never conducted a training class on using

6   optical scan ballots or election day use, setting up

7   a scanner in the polling location and managing

8   optical scan ballot handout. We have never done

9   anything of that nature.

10   Q.   Is training on the optical scan ballot

11   process part of the existing training on the rest of

12   the system that your office conducts?

13   A.   Right. We train them on how to use that

14   optical scanner as that central scanner, like I

15   referenced earlier. But we have never trained them

16   on how to set the scanner up as a polling place

17   scanner. That is -- that's a different

18   configuration.

19   Q.   Are you aware of any cost estimates of what

20   it costs to administer election using the optical

21   scan ballots?

22   A.   I do not.

23   Q.   Has your office studied what it would take

24   to administer an election solely using optical scan

25   ballots?

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1   A.   I do not know.

2   Q.   If the court ordered an all-paper, an all

3   optical scan ballot election, who would be

4   responsible for implementation of that directive

5   within the Secretary of State's office?

6   A.   I would assume that my group would be

7   involved in developing the databases, structuring the

8   databases so that they could facilitate such a need.

9   But who would be in charge of the training,

10   development, the training schedules, whatever

11   materials would have to be produced to help

12   facilitate counties' use of such system, that -- that

13   would be in other people's hands and I do not know

14   who.

15   Q.   You said that you assume your group would

16   be involved in developing the databases to facilitate

17   an optical scan election. What would need to --

18   would the databases need to change at all in order to

19   have an optical scan election?

20   A.   Yes, we would have to adjust the databases

21   in some way. Right now as we build a database, we

22   configure a polling location for election day to be

23   touch screen use. We would have to configuration it

24   to be optical scan use.

25   It's just a matter of the databases would

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1   have to be slightly adjusted, but they would have all

2   have to be adjusted. It would not be something at

3   the county level. It would have to be done at the

4   State level.

5   Q.   Do you have any estimate as to how much

6   time that would cost?

7   A.   I don't because, again, I would have to

8   look at the database to see how they are organizing

9   their election day polling locations. Is it, you

10   know, one-to-one, multiple to one. So I don't have a

11   true estimate of how long it would take.

12   Q.   How does the way that they organize their

13   election day polling locations impact the way that

14   the database is structured?

15   A.   Again, we talked about earlier especially

16   in the absentee, is when you have to count votes at

17   the precinct level. So whether it was an absentee

18   ballot, whether it's an election day ballot, whether

19   it's a provisional ballot, whether it's a mail-in

20   ballot, they all have to be processed back to the

21   county to the precinct level.

22   So the polling -- so the scanner that would

23   be used in a polling location has to have the

24   precincts associated to it. In most circumstances,

25   that's a one-to-one relationship. One polling

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1   location, one precinct. But that's not the case in

2   every location.

3   There are a number of counties that have

4   multiple reporting precincts assigned to a single

5   polling location. So just making sure that the

6   database is properly configured so that the scanner

7   can receive ballots from those multiple precincts and

8   understand where the result of that vote should be

9   routed to for reporting purposes.

10   Q.   When -- do you have an understanding of how

11   the precinct-by-precinct processing works for optical

12   scan ballots that are mailed in?

13   A.   Yes, as we talked to previously, for

14   example, again, in Fulton County, so each scanner

15   that Fulton County has set up only holds a certain

16   number of precincts. It can't go over 22 because of

17   capacity.

18   So when the ballot comes in, they have got

19   to organize the ballot. They have got to sort the

20   ballots by precinct. So they collect the ballot and

21   they see, okay, that's Precinct 1A. It's going to go

22   in the Precinct 1A stack once it's there. This one

23   is this, it goes in that stack. And now what scanner

24   processes 1A, what scanner processes 1B, what scanner

25   processes 213G. and then you have to make sure that

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1   that ballot goes through that scanner.

2   The content of the ballot may look the same

3   to the human. It's the same list of races. But the

4   result of the ballot has to be reported back to the

5   specific precinct to which the voter is connected to

6   and it does that through the scanning of the optical

7   scanner.

8   Q.   Got it.

9   MS. BENTROTT: Okay. Ready for another

10   break?

11   THE WITNESS: Yes.

12   THE VIDEOGRAPHER: The time is 5:28 p.m.

13   We are now off the record.

14   (WHEREUPON, a recess was taken.)

15   THE VIDEOGRAPHER: The time is 5:39 p.m.,

16   and we are back on the record.

17   Q   (By Mr. Brown) Okay. So you may recall

18   back at the preliminary injunction hearing in this

19   case in September you testified that CES built a

20   brand-new air gap system after transitioning back to

21   the Secretary of State's office?

22   A.   Uh-huh.

23   Q.   Is that true?

24   A.   That is correct.

25   Q.   What can you tell me that's new and

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 1   different about that system from the system that you

 2   had at KSU?

 3        A.   Again, I'm going to reference you back to

 4   SOS IT to speak to you about what their system is

 5   currently comprised of.  So, you know, what is the

 6   difference between X and Y, I don't know what all

 7   they have and why in relation to, you know, what may

 8   be different.

 9             The system at Kennesaw was a isolated

10   computer.  And it was plugged into a network that was

11   separate and apart from the public network.  Which

12   was validated by the KSU IT instance multiple times.

13   And even after the March 1st, March 1st incident to

14   validate again that the private network that was in

15   existence at KSU was still private, that there was no

16   point of entry.

17        Q.   Just to clarify, the private network that

18   you are describing that was at KSU, are you talking

19   about the ballot-building server?

20        A.   Yes.

21        Q.   And the three ballot-building computers

22   that were linked to it.

23        A.   Right, yes.

24        Q.   But to be clear, that wasn't the entire

25   scope of the system at KSU, correct?
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1   A.   The -- when you say "scope of the system at

2   KSU," explain.

3   Q.   Well, I think you described three servers

4   that you had at KSU, right, the ballot-building

5   server, the --

6   A.   The ballot-building server and the Epic

7   server both resided on the private network. Which,

8   again, KSU IT looked at post-incident and confirmed

9   that everything was still contained within a private

10   environment. No outside -- no outside web access

11   points in that system.

12   The third server was the web server and it

13   was plugged into the external public network

14   environment.

15   Q.   And I think we touched on this earlier, but

16   all of the information that was found by Grayson and

17   Lamb on -- that you say came from the public server,

18   was all of that information that you would have

19   expected to be on the public server?

20   A.   It was information that I knew would have

21   been on the public server at some point in time. It

22   is not information that I expected to be there at the

23   time. But it was information that had been at some

24   point in time on the web server because it was used

25   for that -- the things that were there were again

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1   files that were being distributed to the county for

2   operations at the county level.

3   Q.   And so since CES moved to the Secretary of

4   State's office, CES still has the Epic server and the

5   ballot-building server, correct?

6   A.   We have a new ballot-building hardware

7   that -- that holds the files that are used by our

8   ballot-building team. And we have a new box that is

9   holding the Epic software and the data files that are

10 needed to make Express Poll data sets.

11   Q.   And you said before that they are running

12 the same, if not the same exact software, but the

13 same version, the same type of software that they

14 were running --

15   A.   The same version of software. Everything

16 may be on different operating systems, but it's the

17 same version of executable.

18   Q.   And at KSU, there were three additional

19 computers that were connected to the ballot-building

20 server, correct?

21   A.   For each employee at the Center for

22 Election Systems had a private network terminal and

23 they had a public terminal. So if you were a ballot

24 builder, you had two computers at your desk. You had

25 a ballot-building computer that was connected to the

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1   private. You had a public-facing computer that you

2   were able to communicate with the counties back and

3   forth with.

4   So all full-time employees had the two

5   computers; one to the private and one to the public.

6   Q.   And do all full-time employees still have

7   that same setup of two computers --

8   A.   Yes.

9   Q.   -- one private and one public?

10   A.   Yes, yes.

11   Q.   And they run the same software that was

12   being run at KSU?

13   A.   The same version of GEMS, the same version

14   of Epic.

15   Q.   And the processes of building the CD, are

16   those the same as the processes when you were at KSU?

17   A.   I believe we are using the same, the same

18   CD burning software that was used at Kennesaw, yes.

19   Q.   And the processes of putting information on

20   your USB hard drive, is that process the same as when

21   you were at KSU?

22   A.   It's slightly different because of the

23   encryption that is maintained on the SOS public side.

24   So if there are data files that we are having to pull

25   down from the public, like if we are pulling the text

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1   files that we need from the voter registration

2   system, that is on -- the file is encrypted when it

3   leaves the public box and then has to be transported

4   via the encrypted USB drive and then password-enabled

5   in order to move the data file onto the private

6   network side.

7   Q.   And how does that differ from the process

8   when you were at KSU?

9   A.   The file that was coming from the State

10 didn't have that encryption element on there.

11   Q.   And do you have any more detailed knowledge

12 on what that encryption is?

13   A.   That's an SOS IT question.

14   Q.   Can you identify any specific differences

15 other than the ones we have discussed in how the

16 current system differs from the system that was in

17 place at KSU?

18   A.   I would have to, again, lead you to the SOS

19 IT to speak about the current system. And I don't

20 have an operational knowledge of all of the -- the IT

21 surroundings over the previous system.

22   Q.   But as far as --

23   A.   I just used it. I didn't configure it.

24   Q.   Sure. But as far as your interaction with

25 the system goes, can you identify any other

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1   differences?

2   A.   In response to your question, I can't. I

3   can't think of anything that would -- that would

4   answer -- give you anything other than "I don't

5   know."

6   Q.   Does the private network that you referred

7   to, does that -- did that include the web server?

8   A.   No, the web server was never connected to

9   the private -- to the private level. The web server

10   was on the web. It was on a public, public domain.

11   It was in a public network slot. It was not

12   connected to the private system.

13   Q.   Was there ever any occasion to transfer

14   information from the private network to the web

15   server?

16   A.   When we would be uploading pdf files to the

17   county, when we would be uploading those reports to

18   the county for them to view, then there would be data

19   moved from the private to the public using one of

20   those lockable USB drives.

21   Q.   Is there -- was there ever any occasion to

22   then -- was that USB drive reused in going back and

23   forth from the private network to the public network?

24   A.   It was, and it would be reformatted before

25   data was moved to and from it.

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1   Q.   Every time?

2   A.   Uh-huh.

3   Q.   Was there ever any occasion to transfer any

4   files that were not pdf files from the private

5   network to the public network?

6   A.   I believe I said earlier today that in

7   those emergency circumstances where we had to

8   transfer an electronic copy of the GEMS database to a

9   county in emergency circumstances, that that GEMS

10   file would be moved from the private storage location

11   over to the public web server for county to access.

12   Q.   What about a training database?

13   A.   Yes, training database would have been

14   placed on the web server for a county to obtain.

15   Q.   Where would the training database come from

16   in the first instance?

17   A.   The training database would have come from

18   the CPU, not the ballot-building server. It wouldn't

19   have been housed on the ballot-building server. It

20   would have just been housed on an individual PC that

21   was connected to the private network, but the file

22   itself was residing on that individual PC.

23   Q.   And how would a training database get from

24   the PCU to the public-facing server?

25   A.   Again, through a lockable USB.

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1   Q.   And how would a -- how -- how would the

2   training databases differ from the actual databases,

3   if at all?

4   A.   I'm trying to remember how the training

5   database was constructed and what time it was last

6   constructed. There would not be tremendous

7   difference between the training database and a --

8   just in scope, it would be a much smaller database.

9   But organization of data would be similar.

10   Q.   Can you name any other actions that the

11   Secretary of State's office has taken to secure the

12   system since transferring it in-house from KSU?

13   A.   Other than what we have already said today?

14   I can't speak to any other items.

15   Q.   Can you name any actions the Secretary of

16   State's office has conducted to decontaminate the

17   system since transferring it from KSU?

18   A.   What do you mean by "decontaminate?"

19   Q.   To the extent it is -- the system is

20   infected or infiltrated in any way, to remove those

21   infections or infiltrations?

22   MR. TYSON: I'll object. That calls for

23   speculation, but you can answer.

24   A.   Again, we have brand-new hardware that

25   wasn't transitioned from KSU. It was procured by

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1   SOS. The software that was used at KSU was installed

2   on the new locations in SOS with the install CDs that

3   were originally used to install the software on the

4   servers at KSU. So it wasn't a transfer of the file

5   from the server directly to it, it was through a CD

6   that existed previously.

7   Q.   So to get --

8   A.   That's my recollection of how they loaded

9   the information onto the new systems.

10   Q.   So just to make sure I understand, to get

11   the data that was housed on the system at KSU

12   installed on the system at the Secretary of State's

13   office, that data was loaded on to CDs?

14   A.   No, that data was on CDs external to the

15   servers. We have copies of install CDs that had been

16   retained and kept so that you had the ability to be

17   able to install into a new box if you needed to. You

18   didn't transfer from device to device. You would

19   just do a new install on the new device.

20   Q.   And what -- what specifically are we

21   talking about was being installed?

22   A.   The GEMS executable, the GEMS program.

23   Q.   Were the databases transferred when -- when

24   CES moved from KSU to the Secretary of State's

25   office?

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1   A.   I believe all the databases that were in

2   possession of KSU were transferred to Secretary of

3   State's office.

4   Q.   Do you know how they were transferred?

5   A.   I believe they were transferred via

6   encrypted USB memory hard drives that SOS had

7   provided.

8   Q.   Do you know who was --

9   A.   And then SOS did the extraction and saved

10   to that.

11   Q.   Do you know who at SOS did that extraction?

12   A.   I believe it was Tom McClouth.

13   Q.   Was anyone else involved in that process?

14   A.   I don't recall.

15   Q.   And do you -- you may have answered this

16   before. I'm so sorry if I'm repeating myself. But

17   do you know the operating system that's currently in

18   use at the Secretary of State's office?

19   A.   I do not know the specific operating

20   version.

21   Q.   Do you know the general operating system?

22   THE WITNESS: It's a Windows operating

23   system. What version, I do not know.

24   Q   (By Ms. Bentrott) Do you recall if it's the

25   same version of Windows that was in use at KSU?

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1   A.   On the server as an operating system, I

2   don't recall.

3   Q.   Are you aware of any investigation that the

4   Secretary of State's office has conducted to

5   determine the impact of the vulnerabilities that were

6   identified when the system was at KSU?

7   A.   I do not.

8   Q.   The software used on the DREs is called

9   Ballot Station, correct?

10   A.   Correct.

11   Q.   What does that software specifically do?

12   A.   My understanding of what Ballot Station

13   does is that it takes the information that the GEMS

14   computer has generated through its ballot structure

15   and then reads that data and displays that data for

16   use on a touch screen.

17   And then it goes through a process of

18   collecting interactions that voters have with the

19   touch screen device and collects the voters' intent

20   when casting the ballot. And then produces the

21   printed reports that come off of a touch screen

22   during pre-election and post-election use. It's --

23   it's the program that reads the data file that's

24   created through GEMS.

25   Q.   Do you know what version is currently

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1   installed?

2   A.   4.5.2.

3   Q.   Do you know when that -- if that's the most

4   recent version?

5   A.   That is the most recent version and it was

6   installed in 2001 -- or 2011, excuse me.

7   Q.   So the last time it was updated was in

8   2011?

9   A.   It was, yes.

10   Q.   Have there been security patches or updates

11   since then?

12   A.   We have not installed any other version of

13   Ballot Station since 2011.

14   MR. BROWN: Have there been any security

15   patches to that version since that time?

16   THE WITNESS: I don't know if any security

17   patches have been made to that version.

18   Q   (By Ms. Bentrott) When the update was made

19   in 2011, do you know how the updates were protected

20   against tampering before they were installed?

21   A.   The updates were acquired from the Federal

22   Testing Lab and then that install disk was provided

23   by the testing lab and then that -- the components

24   that were on the -- the install disk were then

25   transferred to memory cards that were maintained by

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1   the Center for Election Systems. And then those

2   memory cards were used for loading the install into

3   the touch screens.

4   Q.   Do you know the process by which the

5   updates were installed to the machines?

6   A.   To the DREs?

7   Q.   Yes.

8   A.   It was through a memory card. So the

9   memory card was -- touch screen was -- was opened at

10   the county level by a testing team. The memory card

11   with the update would be placed into one of the

12   memory card slots on the DRE and then the DRE was

13   then turned on.

14   And then it was a process where the system

15   read what was on the memory card and updated the

16   specific information that needed to be updated. Once

17   that process was concluded, that memory card was then

18   removed and then the machine went through a full

19   acceptance test where an elections database was

20   loaded to the device and then an acceptance test

21   performed on the device to make sure that the proper

22   version had been installed and that it was still --

23   and that it was operating as expected.

24   Q.   Does Georgia have the source code?

25   A.   I do not know.

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1   Q.   Has the -- I assume you don't know this,

2   but has Georgia ever modified the source code?

3   A.   I do not know.

4   Q.   Is Georgia aware of vulnerabilities that

5   other states have found in their DRE systems, are you

6   aware?

7   A.   I'm aware that other jurisdiction have

8   decided to move away from DREs. For what reason, I

9   do not know.

10   Q.   So you are not aware, for example, that

11   California found vulnerabilities in their own DRE

12   system and that that -- well, stop there.

13   A.   I know that -- I know that State of

14   California did a recertification examination, that's

15   the way I would classify it, of their DRE systems I

16   believe in 2006 or '7, somewhere in that frame. And

17   they concluded upon that that they felt that DREs

18   were no longer something that they could certify for

19   use in that state.

20   Q.   Based on vulnerabilities they found?

21   A.   I believe --

22   Q.   Is that not your understanding?

23   A.   You know, what, what determination they

24   made, I did not read the full record to see what all

25   determinations they made. I see -- I know that they

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 1   made a determination that they did not want to

 2   certify DREs for use anymore in that state.

 3   Q.   When you were employed at the Secretary of

 4   State's office at the time that Georgia was

 5   considering switching to DREs, did you go on a --

 6   let's, you can rename it, but on sort of a

 7   fact-finding mission to California to learn about

 8   their use of DREs?

 9   A.   During -- during the, I believe 2001, I

10   accompanied a member of the 21st Century Voting

11   Commission, Representative Buddy DeLoach to Oakland,

12   California to witness an election being run on DREs

13   at the time in the City of Oakland.

14   Q.   And this was before Georgia had adopted

15   DREs?

16   A.   Yes, that is correct.

17   Q.   And what was the purpose of the trip?

18   A.   Just to learn more about DREs and their

19   use, to see them in an actual elections operation, to

20   get some feedback from poll workers and from voters,

21   you know, on what they felt of the machine. And also

22   to speak with the county elections director at the

23   time. I don't remember his name. And just get a

24   sense of what they thought of this type technology.

25   It was newer technology to the State of

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1   Georgia at the time and so it was an opportunity to

2   see it in use.

3   Q.   Was it -- was it beneficial to see that new

4   technology was being used by another state and

5   understand how it worked before Georgia implemented

6   it?

7   A.   Yes.

8   Q.   And California's experience was relevant to

9   Georgia's decision-making in this time frame,

10 correct?

11   A.   In 2001?

12   Q.   Yes.

13   A.   I think the fact that it was in California

14 was just the fact that it was in California. Because

15 we had we visited locations in South Carolina,

16 locations in Ohio, and locations in California to

17 learn more about DRE use in elections. So we did

18 visit California, but we visited other places to

19 learn more about DRE use.

20   Q.   That's because the experience with other

21 states with DREs was relevant to Georgia's

22 decision-making process and --

23   A.   We wanted to learn more about the use of

24 DREs because we had never used DREs in the State of

25 Georgia prior to that pilot project in 2001.

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1   Q.   Why is it that California experience in

2   using DREs was relevant and useful information in

3   2001, but their top-to-bottom review of DREs that

4   occurred in 2006, 2007 determining that there were

5   vulnerabilities in the DRE system was not relevant to

6   Georgia's decision-making process?

7   A.   That's a question for those that were in a

8   position to make the poll decisions in 2006 and 2007.

9   I worked for the Center for Election Systems at

10   Kennesaw State. Was not a member of the Secretary of

11   State's office at that time. We did, you know, meet

12   with the Secretary of State's office, you know, in

13   our capacity as being under contract with the

14   Secretary of State's office, but it came down to the

15   policy-makers on the decisions that were made.

16   Q.   Has the State of Georgia made any changes

17   in response to vulnerabilities that have been

18   reported in other state's DRE systems?

19   A.   Not to my knowledge.

20   Q.   Do all Georgia voting machines use the same

21   encryption keys?

22   A.   Each device in the county are -- in the

23   counties are running the same encryption key, yes.

24   Q.   Do all supervisor cards have the same code

25   or pin?

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1   A.   No, no.

2   Q.   Same question with respect to the

3   administrator cards.

4   A.   We don't use an administrator card in

5   Georgia.

6   Q.   And for the supervisor cards, is the

7   encryption process the same for all of them?

8   A.   Yes.

9   Q.   Did you have any involvement in the

10   decision to degauss the server at KSU?

11   A.   I did not have any control of the server at

12   that point in time. It was in the possession of KSU

13   IT and they were in control of that KSU asset-tagged

14   device. And they were in control of the next steps

15   in how they held that or how they repositioned that

16   for use within the University if they so choose.

17   Q.   Were you involved in the decision-making

18   process at all?

19   A.   I was aware that they had the computer and

20   that they were, you know, wanting to re-task the

21   computer, but other than that, no.

22   Q.   You were not aware that they were planning

23   to degauss the computer?

24   A.   I did not know what steps they were going

25   to do to try to reuse that computer.

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1   Q.   And you were not aware that they were

2   planning to DBAN the computer?

3   A.   I don't know what DBAN means.

4   Q.   So you were not aware?

5   A.   Like I said, I don't know what that means.

6   Q.   And you weren't involved in the

7   decision-making process with respect to wiping the

8   server?

9   A.   No.

10   Q.   Were you aware that re-purposing the server

11   would involve wiping the server?

12   A.   I -- I did not know that re-purposing the

13   server would have meant completely re-formatting the

14   server so that any existing data on there would no

15   longer be available.

16   Q.   And I recall you asked -- we discussed this

17   earlier, we can turn back to Exhibit 21 if it's

18   helpful to you. But you reached out to KSU IT when

19   you felt like you didn't have the data you needed to

20   conduct your operations.

21   A.   Uh-huh.

22   Q.   Is that correct?

23   A.   Uh-huh.

24   Q.   And did they end up providing you with the

25   data you needed to conduct your operations?

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1   A.   Yes, they did.

2   Q.   And what did that entail? Was that a

3   subset of the data that was on the server?

4   A.   No, that was some instruction manuals that

5   were there, like the instructions manuals we talked

6   about that were available on the web server for

7   counties. That's where the most recent version of

8   the data was and that's what I was needing were those

9   training files so that we would have them in hard

10   copy so that we could reproduce and get out to

11   counties.

12   We didn't have a web server anymore with

13   that information, so we needed all that stuff that

14   had been out there for county training purposes, have

15   it back in our possession so that we could make it

16   available to counties again.

17   Q.   And is that the only data that you

18   retrieved back from KSU IT once they had taken the

19   server?

20   A.   I think the other thing that was on there

21   was some inventory records on one of the partitioned

22   drives of the web server was the inventory or testing

23   records that showed that this machine was in this

24   county and it had been tested X number of times.

25   Q.   So inventory records of testing at county,

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1   at the county level was on the web-facing server?

2   A.   It was on a partitioned drive of that -- of

3   that device. This is answering the question to the

4   best of my ability. I don't know if that partition

5   was web-facing or not. But I know that that

6   partition was on that particular computer.

7   Q.   And forgive me, what do you -- what do you

8   mean when you say "a partitioned drive?"

9   A.   That is the language that was always

10   referred to me by my IT staff. So I can't give you a

11   definition of partition. That is just how they, you

12   know, spoke of it to me and they always used that

13   terminology saying that this may be on the box, but

14   it's not public facing. It's -- it's on this box,

15   but it's not accessible to the public.

16   Q.   What information is housed in or was housed

17   in those inventory records?

18   A.   It is just, you know, what machine is in

19   what county. It is just like, you know, Machine X is

20   in this county and was purchased at this time. It's

21   a state purchase or it was a county purchase. And if

22   we had -- every time that we touched it, every time

23   that we had inspected the unit, there was a date

24   stamp of when we last tested it, who was the one that

25   tested it, did it pass, did it fail. If it failed,

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1   why did it fail.

2   Q.   Why would that information have been on the

3   public -- on the -- on the web server?

4   A.   That is a good question and I don't know

5   the answer to that.

6   Q.   Is there any other information that you can

7   recall now that would have been housed on the web

8   server when it existed that we haven't already

9   covered?

10   A.   No, ma'am.

11   Q.   Is there any additional information that

12 KSU IT sent you after besides these two things we

13 discussed, the training manuals and the inventory

14 records?

15   A.   Not, not in my recollection, no, ma'am.

16   Q.   When machines are purchased, they are

17 purchased at the county level or at the state level?

18   A.   They are now purchased at the county level.

19   Q.   Were they purchased, ever previously

20 purchased at the state level?

21   A.   The State has made two purchases of voting

22 equipment. They made a purchase in 2002. They made

23 a subsequent purchase in 2004. And I believe that

24 is -- that is the total of state GRE procurements.

25 All other procurement have been done at the local

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1   level.

2   Q.   Do you recall if counties have made

3   procurements of DRE machines recently?

4   A.   I believe that they have procured some DRE

5   machines in leading up to the 2018 elections.   But

6   the last unit purchased, I could not remember.

7   Q.   Do you have any estimate about as to what a

8   DRE machine costs?

9   A.   I think the current price is $2,500 or

10   something like that per device.

11   Q.   And is that an all-in price that includes

12   sort of all the other hardware and software that's

13   required to administer?

14   A.   Yes. Yes. From the vendor, yes. I don't

15   even know honestly if the vendor right now has any

16   equipment to sell.

17   MS. BENTROTT: Why don't we take a quick

18   break.

19   THE WITNESS: Okay.

20   THE VIDEOGRAPHER: The time is 6:10 p.m.

21   We are now off the record.

22   (WHEREUPON, a recess was taken.)

23   THE VIDEOGRAPHER: The time is 6:19 p.m.,

24   and we are back on the record.

25   ///

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1   EXAMINATION

2   BY MR. BROWN:

3   Q.   This is Bruce brown for the coalition

4   plaintiffs with just two more questions.

5   Is the encryption key still F2654HD4?

6   A.   Honestly, I do not know the specific

7   encryption key, what -- what the -- what the code is.

8   Q.   But it's hardwired into the system. It

9   hadn't been changed; is that right?

10   A.   Again, I don't know what the current

11   encryption key is. I know it's the same, that all

12   the devices have the same, but I don't know what that

13   code is.

14   Q.   All the devices have, have the same and

15   it's been the same since the equipment was acquired,

16   correct?

17   A.   I honestly cannot remember when we

18   transitioned in one of our versions if we updated the

19   key in that transition or not.

20   Q.   You testified that there is a limit to the

21   optic scans of 22 precincts; is that right?

22   A.   That's correct.

23   Q.   And what is the basis for that?

24   A.   Experience in building the databases

25   through the years. When -- before the State went to

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1   a reporting of the precinct results at the -- you

2   know, reporting precinct level results absentee.

3   Prior to that, the State had a precinct called the

4   absentee precinct. And that was an all-inclusive

5   precincts. It was what was called as a cumulative

6   precinct. So it was a single precinct that had all

7   of the base or the district combo values in that one

8   precinct.

9   And it created -- you could put all of the

10   county in that one precinct and it didn't matter the

11   size. Because it wasn't a precinct-by-precinct

12   report. It's that if you cast a vote in the

13   absentee, it's part of the absentee precinct. It

14   wasn't portioned out by precinct.

15   When the State came back and said, no, we

16   need to know absentee level results in the precinct

17   level, we had to rebuild the databases to meet that

18   configuration. We started out with just building

19   a -- a single precinct and putting -- or a single

20   vote center, absentee vote center, and putting all of

21   the individual reporting precinct into that vote

22   center.

23   When we started that process, we found that

24   it -- when you try to create a memory card at that

25   point, it couldn't hold it.

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1   Q.   A memory card for the optic --

2   A.   For the optic scan. It could not hold all

3   that data, so we had to start basically working back

4   from the maximum down to where it would work and

5   continually work and we found that that area was

6   around 22 reporting precincts.

7   I think now we tell counties that let's

8   keep it at 20 so that we aren't up against any type

9   of memory problem, that with 20 we will be in good

10 shape.

11   Q.   On -- I have sort of a staffing management

12 question. Are you involved in the planning for the

13 implementation for the new system if the State does,

14 in fact, purchase one?

15   A.   Repeat the question again.

16   Q.   Are you involved in the planning for the

17 implementation of the new system if the State ended

18 up purchasing one?

19   A.   I don't know how far to get into talking

20 about a current procurement process, but the process

21 of planning, sort of like coming up with ideas of

22 time lines, yes, I have been involved in some of

23 those discussions.

24   Q.   Is the State going to hire a separate

25 person to be like an implementation manager for

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 1   that --
 2              MR. TYSON:  I'm going to object since as an
 3          active RFP, there is a lot of confidentiality
 4          rules that are surrounding that RFP process, so
 5          I don't want to get into something where Michael
 6          is going to need to disclose something that is
 7          part of that, so I just want to make sure we're
 8          good on that.
 9              MR. BROWN:  That's fine.
10          Q.   (By Mr. Brown) Who would know the answer
11   about the encryption key?
12          A.   I don't know.
13          Q.   Somebody in IT?
14          A.   I don't know.  Because this gets back to
15   when we went through version change when that became
16   an option.  And I honestly do not recall if we
17   altered that encryption key when we did that install.
18   I just don't recall.
19              MR. BROWN:  All right.  That's all I have
20          right now.  Thank you.
21              And what is the total time for the record?
22              THE VIDEOGRAPHER:  Six hours and 13
23          minutes.
24              MR. BROWN:  Okay.  For the record, we have
25          used up six hours and 13 minutes.
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1   MS. BURWELL: Bryan, do you intend on

2   asking any questions?

3   MR. TYSON: Just a couple of brief

4   questions. Does anyone have anything else?

5   EXAMINATION

6   BY MR. TYSON:

7   Q.   Mr. Barnes, I just want to ask you a couple

8   of questions.

9   Mr. Brown asked you earlier about the

10 challenged vote for absentee panel within the DREs.

11 Do you recall those questions?

12   A.   I do.

13   Q.   And has that been used -- is that being

14 used in Georgia today?

15   A.   It is not.

16   Q.   And has the challenged vote panel been used

17 since -- at any point since 2007 when the law was

18 changed?

19   A.   No, sir.

20   Q.   There was some discussion about the

21 supervisor card that's used in each precinct. Does

22 the poll manager have to take any other action beyond

23 just inserting the supervisor card to end the

24 election on the DRE?

25   A.   They have to enter a passcode.

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1   Q.   And how do they obtain that passcode?

2   A.   That is obtained from the elections office.

3   They provide that information to the individual poll

4   manager.

5   Q.   There was some questions about the My Voter

6   page and the on-line voter registration system. Do

7   you recall those questions?

8   A.   I do.

9   Q.   Is MVP different than the state's voter

10   registration system?

11   A.   It is a -- in my understanding, yes, it is.

12   It is a way for a voter to access information about

13   their polling location, their current registration

14   status and stuff of that nature, that it's not a

15   system where that record is then updated by the

16   voter.

17   Q.   And is the on-line voter registration

18   different than the State's voter registration system?

19   A.   Again, my understanding is yes, it's a way

20   for a voter to make a request to become registered to

21   submit information electronically to the county for

22   registration purposes.

23   Q.   There was some questions regarding

24   municipal elections and the review your office

25   performs on vendor build GEMS databases. Do you

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1   recall that?

2   A.   I do.

3   Q.   After your office reviews the municipal

4   election database built by the vendor, does the

5   Secretary of State take any other action related to

6   that GEMS database?

7   A.   The other action is when the vendor --

8   vendor is needing to prepare the memory cards for the

9   jurisdiction. The vendor would come to the Secretary

10   of State's office and use a trusted GEMS computer

11   within the Secretary of State's office under

12   supervision of a Secretary of State employee to

13   create the media that would need to be delivered to

14   the jurisdiction.

15   Q.   And then the Secretary of State's office

16   doesn't have any further responsibility after that

17   media is created?

18   A.   They do not. They do not.

19   Q.   If you saw a vote, an election result tape

20   from a DRE machine for the November 2018 election, it

21   had a date from 2003 on it, would that surprise you?

22   A.   It wouldn't necessarily surprise me. Just

23   because part of the logic and accuracy process is to

24   set the proper date and time on the device during the

25   L&A process and sometimes county election officials

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1   in doing their L&A don't set the clock properly.

2   MR. TYSON: All right. I don't have any

3   other questions.

4   MS. BENTROTT: Just a little bit of

5   follow-up on that.

6   EXAMINATION

7   BY MS. BENTROTT:

8   Q.   You said that in addition to the supervisor

9   access card, they get a passcode from the election

10   office; is that correct?

11   A.   That's correct.

12   Q.   Is that the county election office that you

13   are referring to?

14   A.   That is correct.

15   Q.   And do you know how those passcodes are

16   generated?

17   A.   Those passcodes, when we re-update the

18   supervisor card with passcodes, those passcodes would

19   have been randomly generated using an Excel

20   spreadsheet at the time.

21   And then an interesting thing that we found

22   through the years is that there are some of those

23   codes that the touch screen, for whatever reason,

24   would not recognize. So we would generate a list of

25   159 random numbers and then we would test each one of

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1   those codes to make sure that it would be recognized

2   by the touch screen. If that code that had been

3   randomly generated would not be recognized, then a

4   new randomly number would be generated for the county

5   until -- and tried again until we found 159 usable ID

6   numbers that could be used.

7   Q.   So the Secretary of State's office is the

8   entity that generates the passcodes; is that correct?

9   A.   The last time the update was done was at

10   the Center for Election Systems, so KSU was

11   generating that set of those set of codes.

12   Q.   And when was that done?

13   A.   That was in 2017.

14   Q.   And so the codes have been the same since

15   then?

16   A.   That is correct.

17   Q.   So CES at KSU would generate the passcodes

18   to test them out on a DRE machine to make sure the

19   DRE would accept them?

20   A.   Uh-huh.

21   Q.   And how would those passcodes then be

22   transmitted from CES to each county election office?

23   A.   Those passcodes would be written down on a

24   transmittal form that went with the compact flash

25   cards when they were delivered to the county. So the

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1   county would get those compact flash cards with

2   instructions to call back to the center to get the

3   passcode, and then they would fill in the passcode

4   once we verified we were talking to the proper

5   county.

6   Q.   And that same process has been used for

7   each election since those passcodes were generated at

8   CES in 2017?

9   A.   Once the county has the code, they have the

10   code, it's in their possession at that point in time.

11   If they, you know, lose where they have that code, we

12   have the code that we can provide back to them, but

13   only after verification of who we are speaking with.

14   Q.   Where does CES maintain those codes?

15   A.   They are maintained on the private -- on

16   the -- in the private network in a spreadsheet that's

17   maintained on the private network.

18   Q.   If you know, how does each county election

19   office inform each supervisor what the passcode is?

20   A.   I do not know.

21   Q.   You also mentioned something about county

22   officials might not set the clock properly --

23   A.   Uh-huh.

24   Q.   -- on a DRE during logic and accuracy

25   testing. What is the basis of that assertion?

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1   A.   When you are setting the clock, it requires

2   you touching the screen in specific locations where

3   you have to set the hour, the minute, the time -- I'm

4   trying to think of the word. The time zone that's

5   used. And if you don't hit the right thing in the

6   right way and go through the proper sequence, then it

7   can set the clock off by a couple of hours.

8   Q.   Or a couple -- or a decade?

9   A.   Again, it's about user input of selecting

10   the right thing. So I can't speak to how they ended

11   up putting the wrong date in, but I know it is a

12   possibility to do so.

13   Q.   Is that the only possibility for -- for how

14   we could explain that the -- such a date discrepancy?

15   A.   Knowing that during the logic and accuracy

16   phase that you are required to set the date and time,

17   then it leads to me to think that that is a -- that

18   is the most probable possibility of the clock being

19   set to the wrong date and time.

20   Q.   What other information are county officials

21   expected to input into the DREs that -- that they

22   could do incorrectly?

23   A.   The setting of the date and time is the one

24   thing in diagnostics where they set the date and

25   time. Once that diagnostic process is done, then

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1   they are printing out reports and that's just a print

2   process.

3   They are also checking the voter access

4   card to validate that the voter access card, that the

5   card reader/writer that is on the touch screen can

6   recognize the card, that it can do its action. Those

7   are part of the diagnostics.

8   Also, calibration is something that's done

9   by the local election official. That they have to

10   touch specific points on the screen to properly

11   calibrate the machine. If they don't touch the

12   proper point right in the center of the crosshair,

13   but they continually press slightly above the

14   crosshair or slightly about below the crosshair but

15   do that consistently, that could create a slightly

16   mis-calibrated device as well. And that's something

17   that's done locally by the county election official.

18   Q.   Can you think of anything else?

19   A.   I cannot.

20   MS. BENTROTT: No further questions.

21   MR. TYSON: I don't have anything else.

22   THE VIDEOGRAPHER: The time is 6:32 p.m.

23   This concludes the deposition. We are now off

24   the record.

25   (WHEREUPON, the proceedings were concluded at 6:32 p.m.)

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1   I declare under penalty of perjury

2   under the laws that the foregoing is

3   true and correct.

4

5   Executed on _____ , 20___,

6

7   at _____, _____.

8

9

10   _____

11   MICHAEL BARNES

12

13

14   Sworn to and subscribed before me this ___ day of

15   _____, _____.

16

17   _____

18   NOTARY PUBLIC

19

20   My Commission Expires:_____

21

22

23

24

25

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 1                    C E R T I F I C A T E

 2    STATE OF GEORGIA   )

 3                       ) ss.:

 4    FULTON COUNTY      )

 5


 6       I,  Robin Ferrill, Certified Court Reporter

 7    within the State of Georgia, do hereby certify:

 8            That MICHAEL BARNES, the witness whose

 9    deposition is hereinbefore set forth, was duly sworn

10    by me and that such deposition is a true record of

11    the testimony given by such witness.

12            I further certify that I am not related to

13    any of the parties to this action by blood or

14    marriage; and that I am in no way interested in the

15    outcome of this matter.

16            IN WITNESS WHEREOF, I have hereunto set

17    my hand this 10th day of July, 2019.

18

19

20

21

22

23

24         ROBIN K. FERRILL, RPR

25
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[& - 22]

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Federal Rules of Civil Procedure

Rule 30

(e) Review By the Witness; Changes.

(1) Review; Statement of Changes. On request by the deponent or a party before the deposition is completed, the deponent must be allowed 30 days after being notified by the officer that the transcript or recording is available in which:

(A) to review the transcript or recording; and

(B) if there are changes in form or substance, to sign a statement listing the changes and the reasons for making them.

(2) Changes Indicated in the Officer's Certificate. The officer must note in the certificate prescribed by Rule 30(f)(1) whether a review was requested and, if so, must attach any changes the deponent makes during the 30-day period.

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Veritext Legal Solutions represents that the foregoing transcript is a true, correct and complete transcript of the colloquies, questions and answers as submitted by the court reporter. Veritext Legal Solutions further represents that the attached exhibits, if any, are true, correct and complete documents as submitted by the court reporter and/or attorneys in relation to this deposition and that the documents were processed in accordance with our litigation support and production standards.

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